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« In Supply Chain Management »

Optimisation of the Order Management Process through the Analysis of the Operational Inefficiencies

Case Study: Bergerat Monnoyeur Algeria

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Abstract

This dissertation examines the order management process at Bergerat Monnoyeur Algeria (BMA), an industrial equipment distribution and after-sales services firm operating within a complex, multi-actor logistics environment. The central research question asks how the order management process can be optimised through an in-depth audit of its functioning. Drawing on a qualitative empirical design combining non-participant observation and semi-structured interviews with key operational actors including the Operational Logistics Responsible, the Warehouse Team Leader, the Logistics Coordinator, and front-line operators the study reconstructs how the process actually operates across its full lifecycle, from order reception and validation through to warehouse preparation, dispatch, delivery, and after-sales closure.

The in-depth audit reveals three structural categories of operational inefficiency that persistently disrupt process fluidity and predictability: procedural insufficiency (absence of Standard Operating Procedures at critical stages), information fragmentation (asynchronous and non-standardised inter-departmental communication), and coordination breakdown (absence of a RACI accountability framework, shared KPIs, and structured cross-functional coordination mechanisms). The findings are interpreted in direct dialogue with the academic literature on logistics operational practices, order management process modelling, warehouse operations, and logistics performance measurement, confirming that the identified dysfunctions are not peripheral frictions but structurally embedded conditions that can only be made visible through a rigorous, process-level audit.

In response to the diagnostic findings, the study proposes a structured optimisation programme organised around four axes: the structure and functioning of the order management process; the manifestation of operational inefficiencies; the perceived causes and effects of those inefficiencies; and the optimisation paths and digital support of the process. This programme is operationalised through a nine-action action plan, an impact-feasibility evaluation grid, and a FMECA-adapted criticality assessment table that classifies dysfunctions by severity, occurrence, and detectability. The research contributes both to the academic understanding of process-level logistics audit methodology and to the practical improvement agenda of industrial logistics organisations seeking to align their operational practices with the demands of efficient, coordinated, and customer-oriented order fulfilment.

Keywords: *Order management process, operational inefficiencies, logistics audit, process optimisation, warehouse management, coordination, information flow*

Résumé

Ce mémoire examine le processus de gestion des commandes au sein de Bergerat Monnoyeur Algérie (BMA), entreprise spécialisée dans la distribution d'équipements industriels et les services après-vente, évoluant dans un environnement logistique complexe et multi-acteurs. La question de recherche centrale interroge la manière dont le processus de gestion des commandes peut être optimisé à travers un audit approfondi de son fonctionnement. S'appuyant sur une démarche empirique qualitative combinant l'observation non participante et des entretiens semi-directifs menés auprès des acteurs opérationnels clés notamment le responsable logistique opérationnel, le chef d'équipe entrepôt, le coordinateur logistique et des opérateurs de terrain -- l'étude reconstitue le fonctionnement réel du processus sur l'ensemble de son cycle de vie, depuis la réception et la validation des commandes jusqu'à la clôture après-vente.

L'audit approfondi révèle trois catégories structurelles d'inefficacités opérationnelles qui perturbent de manière persistante la fluidité et la prévisibilité du processus : l'insuffisance procédurale (absence de procédures opérationnelles standardisées aux stades critiques), la fragmentation de l'information (communications interdépartementales asynchrones et non standardisées) et les ruptures de coordination (absence d'un référentiel de responsabilités RACI, d'indicateurs de performance partagés et de mécanismes de coordination inter-fonctionnelle structurés). Les résultats sont interprétés en dialogue direct avec la littérature académique portant sur les pratiques opérationnelles logistiques, la modélisation du processus de gestion des commandes, les opérations d'entrepôt et la mesure de la performance logistique.

En réponse aux constats diagnostiques, l'étude propose un programme d'optimisation structuré autour de quatre axes : la structure et le fonctionnement du processus de gestion des commandes ; la manifestation des inefficacités opérationnelles ; les causes et effets perçus de ces inefficacités ; et les voies d'optimisation et le soutien numérique du processus. Ce programme est opérationnalisé à travers un plan d'action comprenant neuf actions concrètes, une grille d'évaluation impact-faisabilité et un tableau de criticité adapté de la méthode AMDEC, classifiant les dysfonctionnements selon leur gravité, leur occurrence et leur détectabilité. La recherche contribue tant à la compréhension académique de la méthodologie d'audit logistique au niveau processuel qu'à l'agenda d'amélioration pratique des organisations logistiques industrielles.

Mots-clés : *Processus de gestion des commandes, inefficacités opérationnelles, audit logistique, optimisation des processus, gestion d'entrepôt, coordination, flux d'information,*

ملخص

تتناول هذه الأطروحة عملية إدارة الطلبات في شركة بيرجيرا مونوير الجزائر ب. م. ا، وهي شركة متخصصة في توزيع المعدات الصناعية وخدمات ما بعد البيع، وتعمل في بيئة لوجستية معقدة متعددة الأطراف. ويتمحور السؤال البحثي الرئيسي حول كيفية تحسين عملية إدارة الطلبات من خلال تدقيق معمّق في آليات عملها. استناداً إلى منهج تجريبي نوعي يجمع بين الملاحظة غير المشاركة والمقابلات شبه الموجهة مع الفاعلين التشغيليين الرئيسيين، تُعيد الدراسة بناء الكيفية الفعلية لعمل هذه العملية عبر دورة حياتها الكاملة، من استقبال الطلبات والتحقق منها إلى الإغلاق في مرحلة ما بعد البيع.

يكشف التدقيق المعمّق عن ثلاث فئات هيكلية من الاختلالات التشغيلية تُخلّ باستمرارية العملية وقابليتها للتنبؤ: القصور الإجرائي (غياب إجراءات تشغيل موحدة في المراحل الحرجة)، وتشتت المعلومات (اتصالات غير متزامنة وغير موحدة بين الأقسام)، وانهيار التنسيق) غياب إطار المساءلةRACI ، ومؤشرات الأداء المشتركة، وآليات التنسيق الوظيفي المتقاطع .(وتُفسَّر النتائج في حوار مباشر مع الأدبيات الأكاديمية المتعلقة بالممارسات التشغيلية اللوجستية ونمذجة عملية إدارة الطلبات وعمليات المستودعات وقياس الأداء اللوجستي.

استجابةً للنتائج التشخيصية، تقترح الدراسة برنامج تحسين منظم حول أربعة محاور: بنية وأسلوب عمل عملية إدارة الطلبات؛ ومظاهر الاختلالات التشغيلية؛ والأسباب والتأثيرات المُدرَكة لهذه الاختلالات؛ ومسارات التحسين والدعم الرقمي للعملية. يُرسَّخ هذا البرنامج من خلال خطة عمل تضم تسع إجراءات ملموسة، وشبكة تقييم للأثر والجدوى، وجدول تقييم الحرجية المُكيَّف وفق منهجيةFMECA ، الذي يُصنِّف الاختلالات وفق خطورتها وتكرارها وقابليتها للكشف. تُسهم هذه الدراسة في الفهم الأكاديمي لمنهجية التدقيق اللوجستي على المستوى الإجرائي، وفي أجندة التحسين العملي لمنظمات اللوجستيات الصناعية.

الكلمات المفتاحية :*عملية إدارة الطلبات، الاختلالات التشغيلية، التدقيق اللوجستي، تحسين العمليات، إدارة المستودعات، التنسيق، تدفق المعلومات*

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List of Abbreviations and Acronyms

Abbreviation	Full Designation
BMA	Bergerat Monnoyeur Algeria
CAT	Caterpillar
CSO	Chief Sustainability Officer
DEA	Data Envelopment Analysis
ERP	Enterprise Resource Planning
FMECA	Failure Mode, Effects and Criticality Analysis
IAS	Inspector of After Sales
ISR	Inspector of Sales Representative
KPI	Key Performance Indicator
OMS	Order Management System
RACI	Responsible, Accountable, Consulted, Informed
SEM	Shandong Engineering Machinery (Chinese Brand)
SOP	Standard Operating Procedure
TMS	Transportation Management System
WMS	Warehouse Management System

INTRODUCTION

In the current operational environment, firms involved in industrial distribution and after-sales logistics are under increasing pressure to maintain high service levels while operating in complex and demanding logistics systems. These systems are often characterised by multiple interacting actors, operational interdependence, and the need for effective coordination across several logistics activities (Omoush, 2022). Within this context, the order management process occupies a central place because it links customer demand to the operational stages that follow inside the company. It is through this process that orders are received, handled, prepared, and directed toward fulfilment activities such as warehousing and dispatch (Omoush, 2022). The broader evolution of logistics systems also shows that companies increasingly depend on integrated information and coordination mechanisms to manage complex flows more effectively. In this perspective, process visibility and operational integration have become major issues in logistics performance and service execution (Cichosz et al., 2020). Despite its strategic importance, the internal functioning of the order management process is not always examined in sufficient depth at the operational level. In many organisations, the process develops through a combination of formal procedures, local adjustments, fragmented digital tools, and partially standardised practices, which makes the real progression of information and physical flows difficult to understand as a coherent whole (Cichosz et al., 2020). Operational inefficiencies therefore tend to appear progressively rather than immediately. They may be reflected in delays, poor information circulation, weak coordination between interfaces, or bottlenecks affecting the continuity of the order flow. This suggests that performance problems are not always caused by isolated individual errors but may also result from the way warehouse and order-related activities are organised and connected in practice (Zhen & Li, 2022). These challenges become even more significant in industrial settings marked by high order volumes, diverse product lines, and the coexistence of commercial and after-sales operations. Under such conditions, the accumulation of small dysfunctions can progressively reduce the fluidity of the order cycle and weaken the overall consistency of logistics performance (Cichosz et al., 2020). For this reason, improving the order management process cannot rely only on isolated corrective actions or on the simple addition of digital tools. A more relevant approach is to begin with a structured analysis of how the process actually functions in its operational setting, in order to identify where disruptions emerge, how they affect performance, and why they persist over time (Zhen & Li, 2022). This research is situated within that perspective. Conducted in the context of

Bergerat Monnoyeur Algeria, the study focuses on analysing how the order management process functions in practice within the company's logistics environment. It seeks to make visible the inefficiencies affecting this process and to understand how they influence logistics performance in terms of responsiveness, reliability, and coordination. Through this diagnosis, the research aims to support concrete optimisation perspectives adapted to the company's operational reality

Problem Statement

Despite the critical role of the order management process in supporting logistics performance, many companies lack a detailed operational audit of how this process actually functions across departments and stages. In the absence of such an audit, inefficiencies embedded in task sequences, information flows and coordination mechanisms remain only partially identified and are treated through fragmented corrective actions that do not address their structural causes. In this context, the core research problem of this study is to understand how the order management process can be optimised on the basis of an in-depth analysis of its functioning, by revealing and examining operational inefficiencies as they emerge from the systematic exploration of the process.

Research question

Based on the operational and organisational context outlined above, the central research question of this study is phrased as follows:

How can the order management process be optimised through the identification and analysis of operational inefficiencies?

Derived from this primary question, a set of secondary questions has been developed to provide a more structured roadmap for the empirical investigation and analysis. These sub-questions allow a progressive and detailed exploration of the main question, offering a framework for understanding the links between the way the process operates, the inefficiencies that appear within it and the levers that may support its optimisation in an industrial logistics context.

The sub-questions are formulated as follows:

- **How does the order management process function operationally from the perspective of the actors involved?**

  This question aims to reconstruct the actual configuration of the process by examining how key activities, interfaces, responsibilities and tools are organised in practice, and how actors perceive the progression of orders along the operational chain at Bergerat Monnoyeur Algeria.

- **Which operational inefficiencies become visible when the order management process is analysed in depth?**

  This sub-question seeks to identify, on the basis of the process audit, the concrete manifestations of inefficiency procedural, informational and coordination-related that emerge at different stages of the order flow and that alter its fluidity and predictability.

- **What improvement actions can be proposed to optimise the order management process?**

  This final sub-question aims to explore, in light of the diagnostic findings, the practical and organisational levers through which the process can be redesigned or adjusted. It examines whether interventions such as process standardisation, strengthened coordination mechanisms and enhanced information flows can transform diagnostic insights into actionable optimisation measures for industrial logistics operations.

Objectives of the research

This research aims to examine the operational functioning of the order management process within an industrial logistics setting, with particular attention to the inefficiencies that become visible through the audit of the process and to the improvement actions that can be derived from this diagnostic work. More specifically, it seeks to:

- **Describe and analyse the functioning of the order management process from an operational logistics perspective.**

The first objective is to map the stages, actors, tools and coordination mechanisms that

structure the order management process at Bergerat Monnoyeur Algeria, in order to reconstruct how the process actually operates once ordered parts enter the logistics flow.

- **Identify and interpret the operational inefficiencies revealed by the process audit.** The second objective is to detect, through the detailed analysis of practices and interfaces, the procedural, informational and coordination-related inefficiencies that disrupt the fluidity of the process, and to understand how they manifest themselves in day-to-day operations.
- **Propose optimisation paths grounded in the diagnostic results.**

The third objective is to formulate targeted, actionable recommendations based on the empirical findings, with the aim of redesigning or adjusting dysfunctional stages, reinforcing interdepartmental coordination, improving information quality and, ultimately, enhancing the overall performance of the order management process.

Research methodology

To address the research problem identified in this study, a qualitative empirical approach is adopted, combining non-participant observation with semi-structured interviews. This approach is particularly suitable for auditing how the order management process is carried out in practice and for understanding how the different actors involved perceive its functioning, its inefficiencies and the potential contribution of digital support solutions. Observation is used to capture the real sequence of activities and interactions along the process, whereas interviews with staff from the warehouse, after-sales service, logistics coordination and distribution provide in-depth insights into their experiences, interpretations and perceived difficulties.

More specifically, the empirical design is based on semi-structured interviews with the Operational Logistics Responsible, the Warehouse Team Leader, the Logistics Coordinator in the order placement service and two front-line operators. Semi-structured interviews offer a flexible but coherent framework that allows participants to describe their work and constraints in their own words, while ensuring coverage of the key themes linked to process functioning, coordination and inefficiencies. This qualitative design therefore makes it possible to understand not only the formal organisation of the order management process, but also the organisational dynamics, communication patterns and practical challenges that underpin its daily operation.

Research structure

The present dissertation is structured into three main chapters, each contributing to the logical development and coherence of the research.

Chapter I: This chapter is devoted to the theoretical grounding of the research. It provides a literature review that synthesises the main academic contributions on order management processes, process analysis and operational inefficiencies in logistics systems. It then develops the conceptual framework by defining the key concepts mobilised in the study and clarifying the relationships between process functioning, inefficiencies and optimisation.

Chapter II: This chapter presents the methodological choices of the study. It describes the host organisation, Bergerat Monnoyeur Algeria, and details the qualitative research design adopted, the data collection methods (non-participant observation and semi-structured interviews), the sampling strategy and the approach used for analysing the collected data

Chapter III: This chapter is dedicated to the empirical part of the research. It reconstructs the functioning of the order management process as observed in the field, presents the main inefficiencies revealed by the audit and offers an analysis and interpretation of these results in light of the literature and the research problem. It also discusses the implications of the findings for the management of the order process and for the potential deployment of digital support tools, and proposes concrete avenues for improvement.

CHAPTER I: THEORITICAL FRAMEWORK

SECTION 1: LITERATURE REVIEW

This section reviews the main academic contributions that inform the analysis of order management process optimisation. It is structured into four thematic blocks that correspond to the core dimensions of the study: operational practices in logistics systems, the role and architecture of the order management process, the specific contribution of warehouse operations within that process, and the concept of operational efficiency and its measurement in logistics. A final general synthesis draws these strands together, highlights their shared limitations and identifies the research gap that justifies conducting an in-depth, process-level audit of order management inefficiencies in an industrial logistics context.

1.1 Operational Practices in logistics systems

Nguyen and Ngo (2025), in their study titled *A Review of Logistics Management Practices, Performance, and Future Research Directions,* aim to synthesise existing research on logistics management practices and to construct a comprehensive conceptual framework classifying the full range of operational tasks across logistics systems, including transport management, warehousing, order fulfilment, network design, and supply and demand planning. Using a structured literature review based on qualitative content analysis of academic and practitioner sources, the authors group practices and performance outcomes into major thematic categories. This study provides the conceptual foundation for defining operational practices in logistics systems as a set of interconnected, cross-functional activities, which directly underpins the way this dissertation frames the order management process as one of the core operational mechanisms within a logistics system and justifies the systemic approach adopted throughout the theoretical framework.

As a purely conceptual and review-based contribution, the study does not empirically validate its framework in a specific sector or country and therefore does not directly measure how individual practices influence operational performance in concrete logistics settings. This signals the need for a field-based investigation such as the audit conducted in this dissertation to examine how these practices actually function inside a real logistics organisation.

Omoush (2022), in the study titled *The Impact of the Practices of Logistic Management on Operational Performance: A Field Study of Road Transport Companies,* aims to examine the effect of five logistics management dimensions inventory management, warehousing, order process management, transportation, and packaging on the operational performance

of road transport companies in Jordan. The study applies a descriptive-analytical approach using a 30-item questionnaire, with data analysed through correlation analysis, multiple regression modelling, arithmetic means, standard deviations, and variance analysis. This empirical work operationalises logistics practices into five measurable dimensions, including order process management, and demonstrates their positive association with operational performance, directly supporting this dissertation's argument that execution-level logistics practices and in particular the order management process are key drivers of operational results and, as such, deserve to be examined in depth through field-based analysis.

The study is limited to road transport companies in Jordan, which restricts the generalisability of findings to other logistics segments or geographic contexts; it also relies entirely on self-reported questionnaire data rather than objective operational performance records, which may introduce response bias. These constraints reinforce the need for a context-specific, qualitative audit of the kind undertaken in this research.

Sharvan and Ustenko (2025), in their study titled *Optimization of Logistics Processes in the Supply Chain System of the Enterprise,* aim to develop theoretical and methodological foundations for optimising supply logistics routes and processes through algorithmic and mathematical modelling to improve economic efficiency in enterprise supply chains. The authors use system and comparative analysis, economic and mathematical modelling, and scenario analysis to formalise the logistics optimisation problem and propose algorithmic approaches designed for implementation in real-time decision-support systems. This research reinforces this dissertation's view that logistics operations including the order management process should be analysed and managed as integrated, decision-driven systems in which routing, inventory and warehouse process design are key performance levers, and that a rigorous analytical process must precede any optimisation effort.

The proposed models are presented at a high conceptual level without detailed empirical validation across multiple industries, and the treatment of stochastic risks such as demand fluctuations and supply disruptions remains insufficient, limiting the framework's applicability to dynamic real-world logistics environments of the kind encountered at Bergerat Monnoyeur Algeria.

Okumuş et al. (2024), in their study titled *Operational Methods in Logistics Systems Under Global Disruptions: Warehouse Efficiency, Transport Management, and Network Reconfiguration,* aim to analyse how logistics operations can be redesigned to cope with

global disruptions ranging from geopolitical shifts to pandemic-induced instability, with emphasis on warehouse processes, transportation management, and supply chain network configuration. Using a multi-perspective qualitative approach based on case evidence and secondary data, the authors analyse the deployment of cross-docking, advanced route planning, fleet utilisation strategies, and digital tools such as WMS and TMS to evaluate their combined effect on disruption handling and service performance. This study demonstrates that the order management process must remain efficient even under constrained conditions a finding that reinforces the necessity of conducting a thorough audit of its actual functioning in order to identify where its resilience may be compromised.

The analysis is based largely on illustrative cases and technology descriptions rather than a uniform quantitative comparison of performance across a large sample of firms and does not provide statistical evidence of the magnitude of performance improvement resulting from the practices described.

Abi Kannan and Senthilkumar (2025), in their study titled *Evaluating and Enhancing the Operational Efficiency of a Logistics Service Provider,* aim to identify key challenges in the current workflows of a logistics service provider including warehouse management, transportation, order processing, and technology use and to propose actionable improvement strategies to enhance productivity, reduce costs, and improve service quality. The authors use a mixed-method approach combining field observations, semi-structured interviews, and secondary operational data analysis to map existing workflows, identify bottlenecks such as delivery delays, low inventory visibility, and limited automation, and design targeted improvements including process standardisation and digital tracking solutions. This study provides the closest methodological precedent for the analytical approach adopted in this dissertation, demonstrating that a field-based investigation combining observation and interviews is a valid and effective method for diagnosing how logistics workflows actually function and for generating actionable improvement proposals.

The study is centred on a single logistics service provider, which limits external validity; the proposed improvements are not evaluated through long-term quantitative performance tracking, leaving the sustained operational impact of the recommended changes empirically unverified.

In the continuation of the limitations identified by Abi Kannan and Senthilkumar (2025), particularly the absence of cross-organisational validation, Cichosz et al. (2020), in their

study titled *Digital Transformation in Logistics Service Providers: Drivers, Outcomes, and Challenges,* examine the conditions under which digital transformation initiatives translate into measurable operational improvements in logistics service contexts. Based on an empirical survey conducted across logistics firms in Central and Eastern Europe, the authors analyse the relationship between the adoption of digital tools including enterprise resource planning systems, transportation management systems, and real-time visibility platforms and operational performance outcomes such as process speed, error reduction, and customer service quality. By demonstrating that digital tools only yield sustained operational improvement when they are embedded within standardised, well-defined logistics workflows, this study directly reinforces this dissertation's argument that the effectiveness of tools such as the Order Flow platform depends on a prior, thorough understanding of how the order management process currently functions precisely the objective of the audit conducted in this research.

The study is geographically limited to Central and Eastern European logistics service providers, which constrains the direct transferability of findings to industrial companies operating in the Algerian context; furthermore, the survey-based design does not capture the process-level mechanisms through which digitally enabled workflows interact with specific operational activities such as order processing, stock allocation, or warehouse preparation.

Critical synthesis and limitations of the literature

The studies reviewed in this section converge toward a broad consensus that operational practices in logistics systems constitute an integrated execution mechanism whose efficiency depends on the coherent coordination of transport, warehousing, order management, and network design activities. Whether through conceptual frameworks (Nguyen & Ngo, 2025), empirical field studies (Omoush, 2022), optimisation modelling (Sharvan & Ustenko, 2025), disruption-oriented analysis (Okumuş et al., 2024), applied diagnostics (Abi Kannan & Senthilkumar, 2025), or digital transformation research (Cichosz et al., 2020), the literature consistently confirms that higher levels of process formalisation, technology integration, and coordination across logistics functions are associated with improved operational outcomes. These contributions collectively validate the idea that logistics systems must be approached as interdependent, optimisable, and digitally supported mechanisms rather than as collections of isolated tasks.

Yet a number of shared limitations constrain the scope and depth of this body of work. A large proportion of the reviewed studies remain either conceptual or bounded by specific sectoral and geographic contexts, which reduces the generalisability of their findings to other logistics environments. More critically, most contributions focus on performance enhancement and best practices rather than on the systematic diagnosis of how a specific process actually functions the precise dysfunctions, frictions, and process gaps that prevent logistics systems from operating as intended. The optimisation models discussed tend to adopt deterministic perspectives that underestimate stochastic risks, while the empirical studies rely on self-reported data or single-case designs without long-term follow-up. Beyond this, the literature addresses operational practices in a fragmented manner, examining transport, warehousing, or order management as separate domains without proposing an integrative framework that captures how deficiencies in one area propagate across the entire logistics system.

This points to a significant research gap: despite the extensive treatment of logistics performance and best practices, the explicit, process-level analysis of how an order management process actually functions in a specific industrial logistics context including the nature and sources of its operational dysfunctions remains insufficiently explored. The present study directly addresses this gap by focusing on the order management process at Bergerat Monnoyeur Algeria as the central object of a field-based audit.

1.2 The order management process in logistics systems

Kisinga et al. (2025), in their study titled *Order Management Practices and Small-Scale Grape Processing Firms' Performance,* aim to examine the role of order management practices in the logistics activities and overall performance of small-scale grape processing firms, and to assess how logistics capabilities mediate the relationship between order management practices and firm performance. The study is based on primary data collected from small-scale grape processing firms and uses quantitative analysis to test these relationships. This study provides direct empirical support for conceptualising the order management process as the central analytical object of this research, confirming that its effective execution conditions overall logistics performance by governing the entire order lifecycle from placement to delivery and therefore that a process-level audit of how it functions at Bergerat Monnoyeur Algeria is both academically justified and practically relevant.

The study is limited to small-scale grape processing firms in a specific geographic context, which restricts the generalisability of findings to larger and more complex logistics organisations or other industrial sectors; the mediating role of logistics capabilities is confirmed statistically but the specific mechanisms through which this mediation operates are not explored in depth.

Kiarie and Thogori (2025), in their study titled *Order Management and Supply Chain Performance of Motor Vehicle Assembly Firms in Kenya,* aim to investigate the relationship between order management practices and supply chain performance in the motor vehicle assembly sector in Kenya. The study uses a quantitative empirical design, applying statistical analysis to examine the relationship between order management practices including processing speed, fill rates, and on-time delivery and supply chain performance outcomes. This study grounds this dissertation's theoretical position in sector-specific empirical evidence by demonstrating that the order management process is a key driver of logistics efficiency and customer satisfaction, and by establishing that understanding how it actually functions is a necessary prerequisite for any improvement initiative.

The study is confined to the automotive assembly sector in Kenya, which limits the transferability of findings to other industries or geographic contexts; it focuses primarily on performance outcomes without deeply analysing the internal process mechanisms or the sources of inefficiency that may constrain order management effectiveness precisely the dimension that this dissertation seeks to examine.

In the continuation of the limitations identified by Kiarie and Thogori (2025), particularly the absence of analysis of internal process mechanisms, Framinan et al. (2003), in their seminal work titled *An Overview of Enterprise Resource Planning Systems for Order Management,* examine how information systems structure and support the different stages of the order management process from order entry and stock reservation to production scheduling, dispatch, and invoicing. Drawing on a review of ERP architecture across manufacturing environments, the authors identify the key information flows, decision nodes, and inter-functional handoffs that constitute the order fulfilment cycle. This study is directly relevant to the present dissertation because it provides the structural reference model against which the actual execution of the order management process at Bergerat Monnoyeur Algeria can be mapped and evaluated, making it possible to identify where procedural and informational dysfunctions are most likely to occur.

The study is anchored in ERP-driven manufacturing contexts and does not examine order management in distribution or after-sales service environments, which limits its direct applicability to organisations such as Bergerat Monnoyeur Algeria; as an early foundational work, it also does not address the coordination and visibility challenges that arise from the coexistence of multiple information systems or the use of specialised platforms such as Order Flow alongside legacy ERP tools.

Critical synthesis and limitations of the literature

The studies reviewed in this section Kisinga et al. (2025), Kiarie and Thogori (2025), and Framinan et al. (2003) converge on a common and well-supported finding: order management constitutes a core operational mechanism that directly and positively influences both logistics performance and broader supply chain outcomes. In agricultural, automotive, and manufacturing contexts alike, the evidence confirms that the effectiveness of order management whether measured through processing speed, fill rates, on-time delivery, or order accuracy determines the quality of service delivered to customers and the competitive strength of the organisation. Together, these studies highlight the theoretical evolution of order management from a back-office administrative function to a strategic, cross-functional integrator that links procurement, warehousing, transport, and customer service around the lifecycle of the customer order. That said, the literature on order management within logistics systems presents notable gaps that limit its analytical depth. The quantitative studies are conducted in specific sectoral and geographic contexts, which restricts the transferability of their conclusions to more complex industrial environments or service-intensive logistics operations. More importantly, while the studies confirm the positive relationship between order management practices and performance outcomes, none provides a detailed examination of the internal mechanics of the process how stages are sequenced, how actors coordinate, how information flows across the order lifecycle, and where dysfunctions arise in practice. The process decomposition offered by Framinan et al. (2003), although structurally rigorous, was developed in a context that does not fully reflect the realities of contemporary distribution and after-sales logistics operations.

This constitutes the central research gap that motivates the present study: despite empirical confirmation of the strategic importance of order management, the academic literature has not sufficiently examined how the process actually functions at the operational level how its stages are executed in practice, how actors coordinate, and what dysfunctions arise

within it. This dissertation directly addresses this gap through qualitative field investigation at Bergerat Monnoyeur Algeria.

1.3 Warehouse operations in the order management process

Odeyinka and Omoegun (2023), in their study titled *Warehouse Operations: An Examination of Traditional and Automated Approaches in Supply Chain Management,* aim to examine the organisation and coordination of warehouse activities including receiving, storage, picking, packing, and shipping and to assess how automation and process redesign affect warehouse performance within supply chain systems. Drawing on a comparative review of traditional and automated warehouse approaches, the authors show that warehouse operations constitute the physical interface between inbound supplier flows and outbound customer deliveries, and that their internal organisation largely determines the speed, reliability, and cost of order fulfilment. This study is directly relevant to this dissertation because it establishes warehouse operations as a critical domain within the order management process whose actual functioning must be understood before any improvement can be designed which is precisely the diagnostic objective of the field audit conducted at Bergerat Monnoyeur Algeria.

The study is based on secondary case material and does not provide a granular, process-level diagnosis of how warehouse stages function within a specific industrial distribution environment; implementation challenges are discussed conceptually rather than examined through direct field observation, which limits the empirical depth of its conclusions.

Zhen and Li (2022), in their study titled *A Literature Review of Smart Warehouse Operations Management,* aim to synthesise research on warehouse operations and to identify how digital tools including warehouse management systems (WMS), automated picking technologies, and real-time data platforms reshape the coordination and control of warehouse activities. The authors examine how WMS and related technologies provide real-time visibility over inventory levels and order status, support task allocation across warehouse functions, and integrate warehouse operations with upstream order management and downstream distribution. This study supports this dissertation by demonstrating that the benefits of digital tools within warehouse operations are contingent on the clarity of the underlying operational workflows reinforcing the argument that a rigorous audit of how warehouse stages actually function is a prerequisite for any effective digital support to the order management process, including the deployment of platforms such as Order Flow at Bergerat Monnoyeur Algeria.

The review focuses predominantly on technology adoption and smart warehouse solutions without providing a process-level diagnostic of how warehouse activities function in practice in industrial distribution contexts; the mechanisms through which bottlenecks and

coordination failures arise within warehouse workflows are treated implicitly rather than examined through direct empirical investigation.

Palomino-Paucar, Vidal-Ugarte, and Meza-Ortiz (2025), in their study titled *Warehouse Management and Order Picking Optimization in a Spare Parts Distribution Company,* aim to identify the operational inefficiencies affecting warehouse performance in a spare-parts distribution firm and to propose targeted improvements grounded in a systematic layout plan, multi-criteria ABC classification, and re-engineered picking methods. Using a combination of direct observation, time studies, and operational data analysis, the authors show that redesigning storage configuration and picking routes can reduce picking time by almost half, cut picking errors by nearly 90%, and significantly increase order processing efficiency. This study is particularly relevant to the present research because it is conducted in a spare-parts distribution context directly comparable to BMA's operational environment, and because it demonstrates that a detailed field diagnosis of how warehouse stages actually function including reception, triage, stock allocation, and picking is the necessary first step before any improvement can be formulated.

The study is limited to a single firm and relies primarily on quantitative time-and-motion data without deeply exploring the coordination failures, information gaps, or actor-level perceptions that shape warehouse dysfunction dimensions that are central to the qualitative audit conducted in this dissertation.

Critical synthesis and limitations of the literature

The three studies reviewed in this section Odeyinka and Omoegun (2023), Zhen and Li (2022), and Palomino-Paucar et al. (2025) converge on a clear and well-grounded finding: warehouse operations form the physical core of the order management process, and their internal organisation directly determines order cycle times, accuracy, and service reliability. Whether the focus is on comparing traditional and automated approaches, reviewing digital coordination tools, or empirically redesigning warehouse workflows in a spare-parts context, the literature consistently confirms that reception, storage, triage, picking, and dispatch activities are not secondary logistical functions but primary performance levers for the entire order fulfilment chain. These contributions collectively justify treating warehouse operations as a central analytical domain within the order management process audit conducted in this dissertation.

At the same time, this body of work reveals a recurring analytical limitation. Most contributions focus either on technology adoption strategies or on quantitative optimisation techniques without first providing a process-level, field-based diagnosis of how warehouse activities actually function in a specific organisational context. The mechanisms through which procedural bottlenecks, coordination failures, or information gaps emerge across receiving, triage, stock allocation, and picking activities are either treated implicitly or

approached through engineering metrics alone, without exploring the actor-level perceptions, coordination behaviours, and practical workarounds that shape daily warehouse operations. Furthermore, most empirical studies are conducted in e-commerce or generic manufacturing environments and do not address industrial after-sales distribution contexts where spare-parts logistics, multi-brand portfolios, and the coexistence of manual and partially digitalised practices create specific operational dynamics.

This gap is directly addressed by the present research. By conducting a field-based audit of warehouse activities at Bergerat Monnoyeur Algeria combining non-participant observation with semi-structured interviews with actors involved in unloading, receiving, triage, storage, and preparation this dissertation produces the process-level, qualitative diagnostic understanding of how warehouse operations function within the order management process that the existing literature has not yet provided for this type of industrial logistics context.

1.4 Operational efficiency in logistics systems

Man and Jie (2021), in their study titled *Comprehensive Efficiency Analysis of Logistics Industry Based on Machine Learning and Self-Service Data Envelopment Analysis Model,* aim to evaluate the operational efficiency of the logistics industry by combining data envelopment analysis and machine learning techniques. Using a self-service DEA model enriched with machine learning algorithms, the authors analyse panel data to compute efficiency scores and classify operational performance patterns across the logistics industry. This paper provides an operational definition of logistics efficiency as the productive use of capacity, labour and infrastructure, directly supporting this dissertation's use of operational efficiency as a key outcome variable against which the results of the order management process audit will be evaluated and reinforcing the argument that resource utilisation is a central dimension of logistics performance measurement.

The analysis operates at industry level and does not examine process-level inefficiencies within individual firms, offering limited insight into micro-level operational mechanisms such as order processing workflows, warehouse operations, or information flow dysfunctions. This limitation signals the need for the process-level, firm-level audit that this dissertation conducts.

Fioravanti et al. (2024), in their study titled *Logistics Efficiency in Brazilian Cities Applying Data Envelopment Analysis,* aim to evaluate and compare the logistics efficiency of Brazilian cities using indicators such as GDP, population size, number of commercial establishments, urban area, and cargo fleet size to construct relative efficiency scores. This work demonstrates that logistics efficiency is a systemic, multi-dimensional outcome that

results from the coordinated use of infrastructure, resources, and governance mechanisms reinforcing the view adopted in this dissertation that efficiency at the order management level depends on the alignment of multiple operational components, including stages, actors, information systems, and coordination interfaces, all of which are mapped through the field audit.

The study is restricted to Brazilian cities and to selected macro-level indicators; it does not incorporate firm-level operational practices or order management behaviours, which significantly limits direct applicability to the process-level analysis undertaken in this dissertation.

Odeyinka and Omoegun (2023), in their study titled *The Impact of Automation on Operational Flexibility and Supply Chain Efficiency Within Digital Transformation in Logistics,* aim to investigate how warehouse automation influences operational flexibility and overall supply chain efficiency. The study employs case-based analysis and best-practice benchmarking, assessing how different levels of automation and training affect throughput, flexibility, and cost efficiency. The findings directly support this dissertation by demonstrating that redesigned warehouse processes significantly improve throughput and cost efficiency and by confirming that such redesign requires a thorough understanding of how warehouse operations currently function, which is precisely what the audit at Bergerat Monnoyeur Algeria provides.

The work is based on selected case environments and does not provide broad statistical generalisation across many warehouses; implementation and integration challenges are discussed conceptually rather than measured quantitatively, which limits the empirical robustness of the conclusions.

Tjahjono et al. (2017), in their study titled *What Does Industry 4.0 Mean to Supply Chain?,* aim to examine how the fourth industrial revolution characterised by the convergence of cyber-physical systems, IoT, big data analytics, and artificial intelligence reshapes supply chain management practices, including warehouse operations, order tracking, and real-time inventory visibility. Through a systematic review of Industry 4.0 applications in supply chain contexts, the authors demonstrate that digitalisation enables end-to-end process transparency, accelerates the detection of operational anomalies, and improves the responsiveness of warehouse and distribution operations. This study supports this dissertation by establishing that digital tools such as the Order Flow platform have the potential to improve process visibility and performance within the order management

process while simultaneously reinforcing the argument that their effectiveness depends on a prior, clear understanding of how the process currently functions, which the audit in this research seeks to provide.

As a review-based contribution published in the early stages of Industry 4.0 adoption, the study does not present statistical analysis or a controlled empirical design measuring performance outcomes before and after technology adoption; its conclusions therefore remain largely prospective and illustrative, and do not address the implementation challenges and organisational readiness constraints that firms particularly in emerging markets such as Algeria face when integrating such technologies into existing logistics workflows.

In the continuation of the limitations identified by Tjahjono et al. (2017), particularly the absence of empirical measurement of operational efficiency gains and the limited attention to implementation barriers, Gunasekaran et al. (2017), in their study titled *Big Data and Predictive Analytics for Supply Chain and Organizational Performance,* examine how advanced data analytics capabilities contribute to improving operational efficiency by enhancing demand visibility, accelerating decision cycles, and reducing processing errors. Drawing on a quantitative survey of supply chain professionals across multiple industries, the authors show that analytics integration is positively associated with improved order cycle times, lower inventory holding costs, and higher service reliability. This study strengthens this dissertation's analytical framework by demonstrating that information quality and processing capabilities are foundational to operational efficiency in logistics systems and by reinforcing the conceptual link between information flow, coordination, and logistics performance that structures the diagnostic approach of this research.

The study addresses analytics adoption at a strategic and organisational level without providing process-level analysis of specific logistics activities such as order management or warehouse operations; furthermore, the quantitative survey design captures self-reported perceptions of efficiency rather than objective operational performance data, and does not examine the organisational conditions such as the coexistence of multiple platforms or manual coordination practices that may prevent analytics benefits from materialising in real logistics environments.

Critical synthesis and limitations of the literature

The studies reviewed in this section collectively demonstrate that operational efficiency in logistics systems is a multi-dimensional performance outcome shaped by the productive use of resources, process design, and the integration of enabling technologies. From industry-level efficiency modelling (Man & Jie, 2021) to urban logistics benchmarking (Fioravanti et al., 2024), warehouse automation analysis (Odeyinka & Omoegun, 2023), Industry 4.0 transformation (Tjahjono et al., 2017), and analytics-driven performance improvement (Gunasekaran et al., 2017), the reviewed literature converges on the view that operational efficiency improves when logistics systems combine structured processes, appropriate technologies, and coherent governance. These contributions establish a solid basis for treating operational efficiency as the measurable outcome against which the findings of the order management process audit will be evaluated.

All the same, several important limitations characterise this body of research. Most studies measure efficiency at the system, industry, or urban level without descending to the level of specific logistics processes particularly the order management process where inefficiencies are actually generated. The quantitative models used (DEA, machine learning, survey-based analytics) are valuable for comparative performance assessment but offer limited insight into the micro-level mechanisms that cause inefficiency within operational workflows. Beyond this, the reviewed studies predominantly focus on technological solutions and best practices for improving efficiency without adequately examining the structural sources of inefficiency themselves: the procedural bottlenecks, informational gaps, and coordination failures that systematically hinder process fluidity. None of the contributions examines operational efficiency in contexts that combine legacy manual practices with partially digitalised workflows which is precisely the type of organisational environment present at Bergerat Monnoyeur Algeria.

This reveals a persistent research gap: the diagnostic examination of operational inefficiency as a process-level phenomenon its typology, causes, and impact on logistics performance remains insufficiently addressed in the existing literature. The present study responds to this gap by conducting a field-based audit of the order management process at Bergerat Monnoyeur Algeria, with the aim of identifying, explaining, and proposing solutions to these inefficiencies in their specific operational context.

1.5. General synthesis

The review of the literature across the four sections operational practices in logistics systems, the order management process, warehouse operations, and operational efficiency reveals a broad and consistent convergence around three fundamental ideas. First, logistics systems are inherently cross-functional and interdependent mechanisms in which performance depends on the coherent alignment of practices, information flows, and resources across operational functions. Second, the order management process occupies a central position within these systems, translating customer demand into operational action and conditioning service quality through the rigour with which each stage of the order lifecycle is executed. Third, operational efficiency understood as the ability of a logistics system to produce expected outcomes with minimal waste, delay, and error is both a measurable objective and an outcome of how well operational practices are designed, coordinated, and supported by information and technology.

In spite of this convergence, several persistent limitations characterise the existing body of research. A significant proportion of the reviewed studies remain conceptual or analytically focused at the macro level, without descending to the process level where operational dysfunctions actually originate. The literature on order management confirms its strategic importance but does not sufficiently examine the internal mechanics through which the process is actually executed in practice how stages are sequenced, how actors coordinate, how information flows across functional interfaces, and where dysfunctions emerge. Studies on operational efficiency privilege performance measurement and technological solutions without providing a systematic diagnostic framework for identifying the root causes of inefficiency in specific logistics processes. Moreover, the four dimensions reviewed operational practices, order management, warehouse operations, and efficiency are predominantly studied in isolation, without an integrative framework that captures how they interact and mutually condition one another within a single logistics operation.

Most critically, the reviewed literature lacks empirical engagement with industrial logistics environments in the North African and Algerian context, where the coexistence of manual practices, partially digitalised workflows, multi-actor coordination challenges, and service-intensive distribution operations creates a distinctive and insufficiently studied operational reality. This reinforces both the necessity and the scientific originality of a research approach that examines, through qualitative field investigation, how the order management process actually functions at an industrial logistics firm, how operational inefficiencies

arise and affect logistics performance within it, and what process-level improvements can be proposed to address them.

1.6. Positioning and added value of the present research

The added value of the present research rests on a triple contribution.

On the theoretical level, it proposes an integrated approach to the analysis of the order management process in logistics systems, articulating dimensions that are typically studied in separation operational practices, warehouse operations, information flow and coordination, and logistics performance measurement within a coherent analytical framework. By treating the order management process as a system whose actual functioning must be audited before it can be improved, this research provides a conceptual synthesis that existing fragmented contributions have not yet offered.

On the empirical level, it is anchored in the specific organisational context of Bergerat Monnoyeur Algeria, a major industrial equipment distribution and after-sales services company operating in a complex multi-actor logistics environment. The qualitative field investigation conducted within the order management and logistics departments makes it possible to confront theoretical constructs with operational realities, to observe how the order cycle is actually executed, and to assess the concrete dysfunctions that affect its performance in a context that remains significantly underrepresented in the academic literature.

On the practical level, the research produces actionable diagnostic and improvement insights grounded in field evidence. By mapping how the order management process actually functions, tracing dysfunctions back to their procedural, informational, and coordination causes, and formulating targeted improvement proposals including process redesign recommendations and an assessment of the Order Flow platform's implementation conditions this dissertation contributes directly to the operational improvement agenda of logistics organisations seeking to enhance service reliability, reduce order cycle times, and strengthen coordination across their functional departments.

Conclusion

Taken together, the reviewed works show that logistics systems must be understood as cross-functional mechanisms in which the order management process plays a central role in translating customer demand into operational action and measurable performance

outcomes. However, they also reveal important gaps: most studies remain at a conceptual or macro-level, focus on best practices and technological solutions, and rarely descend to the process level where procedural bottlenecks, informational gaps and coordination failures actually emerge, especially in partially digitalised industrial contexts such as those found in North Africa. These limitations justify the present study's choice to conduct an in-depth, qualitative audit of the order management process, in order to characterise operational inefficiencies as a process-level phenomenon and to propose targeted optimisation paths grounded in empirical field evidence.

Section 2: Conceptual framework

The conceptual framework of this research models the order management process as an integrated system through which customer demand is transformed into coordinated logistics activities and measurable performance outcomes (Kiarie & Thogori, 2025). In this perspective, operational inefficiencies are treated as disruptions that alter the functioning of this system, while information flow and coordination are conceptualised as the mechanisms through which these inefficiencies are either mitigated or amplified. Logistics performance, finally, constitutes the observable result of how well the system operates under these conditions (Guimarães et al., 2025).

2.1 The order management process as a system

Prior to examining its definition and systemic scope, it is necessary to consider the order management process as a structured system composed of interdependent activities, actors, and information flows. From this perspective, the process cannot be understood in isolation, as its effectiveness depends on the coordination and articulation of its constituent elements from order receipt to final delivery.

2.1.1 Definition and systemic scope

Recent work on order management and supply chain performance increasingly portrays the order management process as a core operational mechanism that structures how customer demand is converted into logistics activities and service outcomes (Kiarie & Thogori, 2025). In this study, the order management process is defined as an end-to-end, cross-functional system that governs the lifecycle of customer orders from their initial capture through validation, planning, physical fulfilment, and post-delivery closure. From a process perspective, this lifecycle encompasses the reception and registration of orders in the firm's systems, the verification of customer data and contractual conditions, the

allocation of available inventory or capacity, the execution of warehouse operations such as picking and packing, the organisation of transport and delivery, and the updating of administrative and performance records (Kisinga et al., 2025).

Order fulfilment studies emphasise that this process is inherently complex because it combines a series of interdependent activities executed by different functional entities and linked through both informational and material flows. Within a supply chain network, the order acts as a guiding thread that links customer requirements with internal planning and physical distribution, so that demand information can be translated into feasible and coordinated operational plans (Pennekamp et al., 2024). In this thesis, the order management process is therefore conceptualised as the central operational system under analysis: it structures the sequence of actions by which the firm responds to demand and provides the locus where inefficiencies, coordination issues and digital support mechanisms can be observed.

2.1.2 Functional architecture: from demand to fulfilment

The functional architecture of the order management process can be described through two primary functions: demand-to-fulfilment synchronisation and cross-functional resource allocation. The first function concerns how demand information is captured, filtered, and transformed into fulfilment plans. In total fulfilment management frameworks, order fulfilment performance depends critically on the ability of the system to synchronise demand signals with available inventory and capacity through structured order promising, prioritisation and scheduling rules. In this sense, the order management process plays a synchronisation role by aggregating orders from various channels, checking their feasibility and orchestrating their release to warehouse and transport operations in a way that respects service commitments (Guimarães et al., 2025).

The second function, cross-functional resource allocation, relates to the way the process orchestrates inventory, warehouse resources, and transport capacity around the customer's order. Systematic reviews of managerial integration literature confirm that the order fulfilment process constitutes the main locus where decisions about the allocation of stock, labour, equipment and transport resources are taken, as it sits at the intersection of sales, production, warehousing, transport and finance. Through its planning logic and decision rules, the order management process determines which stock is reserved for which orders, how orders are sequenced and grouped for picking, which routes and carriers are chosen and how exceptions are handled (Alwaely et al., 2025). In the conceptual framework of this

research, these two functions jointly define the architectural role of the order management process: it synchronises demand and fulfilment and allocates scarce resources across functions to deliver the order in an efficient and reliable manner.

2.1.3 Structural characteristics of the process

Three key characteristics are used to qualify the systemic nature of the order management process in this study: customer-centricity, process repeatability, and cost–utility balancing.

First, customer-centricity refers to the orientation of the process toward fulfilling customer requirements in terms of lead time, reliability, flexibility, and completeness. Fulfilment management frameworks stress that modern order processes must be designed from the customer backwards, starting from the desired service experience and then structuring internal workflows to consistently deliver what is termed a "perfect order" on time, in full, without damage and with correct documentation (Christopher, 2022). The same orientation is confirmed in total fulfilment management work, where the objective of aligning customer promises with operational capabilities is treated as the central design principle of the fulfilment system (Guimarães et al., 2025).

Second, process repeatability denotes the extent to which the order management process is built on standardised, documented, and recurrent workflows. Systematic reviews of supply chain integration literature indicate that repeatable processes reduce variability and error, facilitate the use of information systems and enable continuous improvement because the steps and responsibilities are clearly defined and stable over time (Alwaely et al., 2025). In the context of this thesis, repeatability is critical because it allows the process to handle increasing order volumes and complexity without losing control or requiring constant ad hoc decisions (Kisinga et al., 2025).

Third, cost–utility balancing captures the idea that the order management process must reconcile customer value and internal efficiency. Total fulfilment management research emphasises that fulfilment system design is a continuous balancing act between service performance utility for the customer and logistics costs, including inventory, handling, transport and administrative costs (Guimarães et al., 2025). A process that pursues service without cost control may become economically unsustainable, while a process focused solely on cost minimisation may undermine customer satisfaction and demand (Christopher, 2022).

2.2 Operational inefficiencies in the order management process

Before examining the specific forms taken by inefficiencies, it is essential to define operational inefficiencies within the order management process. These inefficiencies may arise at different stages of the process and can be expressed through delays, errors, rework, poor coordination, or inadequate information flow, all of which may negatively affect overall performance and service quality.

2.2.1 Concept and typology of inefficiencies

Operational inefficiencies are conceptualised in this research as the set of disruptions, frictions, and dysfunctions that prevent the order management process from functioning in a fluid, productive, and reliable way. While much of the logistics and supply chain literature has focused on performance enhancement and best practices, fewer studies have explicitly examined the nature and structure of inefficiencies inside core processes such as order fulfilment (Man & Jie, 2021). Drawing on operations management and supply chain coordination research, inefficiencies can be grouped into three main categories: procedural bottlenecks, resource imbalances and information asymmetries (Esmaeili et al., 2020).

Procedural bottlenecks arise when the design of the process itself creates unnecessary delays, redundant steps or unclear handoffs, leading to waiting time, rework or queuing (Esmaeili et al., 2020). Resource imbalances refer to situations in which labour, storage space or equipment are either underutilised or overloaded relative to the flow of orders, often because planning and allocation decisions are not aligned with real demand patterns (Man & Jie, 2021). Information asymmetries denote situations where some actors or stages of the process have incomplete, delayed or inconsistent information, which impairs coordination and generates misaligned decisions (Esmaeili et al., 2020).

2.2.2 Root causes and disruption mechanisms

The literature on supply chain coordination under information asymmetry suggests that many inefficiencies stem from fragmented information systems, misaligned incentives and decentralised decision-making without appropriate coordination mechanisms (Esmaeili et al., 2020). In the context of order management, root causes include extensive manual processing in administrative tasks, weak integration between sales, warehouse and transport systems, ambiguous responsibilities at interfaces, and limited visibility into order status and resource constraints (Alwaely et al., 2025). These factors create a workflow gap between the formal process and its actual execution: although standard operating procedures may exist, daily practice deviates from them due to ad hoc solutions,

improvisation or unavailable information (Man & Jie, 2021).

Mechanistically, such inefficiencies can disrupt the order management system through longer cycle times, increased variability in processing times, higher error rates, and more frequent need for corrections or exception handling. Empirical work on supply chain disruption management shows that even small frictions at one stage for example, inaccurate information at order entry or delayed confirmation of stock availability can propagate through the system and degrade overall delivery performance (Ivanov & Dolgui, 2021).

2.2.3 Effects on process fluidity and performance

From a systems perspective, operational inefficiencies act as internal constraints that reduce the fluidity of the order management process and limit its ability to deliver consistent performance (Esmaeili et al., 2020). They can manifest in repeated delays in order of progression, frequent rescheduling, inventory discrepancies between system records and physical stock, and a higher incidence of incomplete or incorrect orders. Such manifestations can, in turn, amplify demand variability across the supply chain, where small disruptions at the customer interface translate into large fluctuations in upstream planning because information is distorted and safety buffers are increased unnecessarily (Ivanov & Dolgui, 2021).

In this thesis, operational inefficiencies are treated as the principal explanatory factor affecting the functioning of the order management system. The conceptual framework assumes that the presence and severity of these inefficiencies will negatively influence key process outcomes such as order cycle time, accuracy, reliability and the utilisation of logistics resources (Man & Jie, 2021). The empirical analysis in Chapter III will therefore seek to identify the specific forms these inefficiencies take in the case study and to understand how they interact with information flows and coordination mechanisms.

2.3 Information flow and coordination

The effectiveness of the order management process depends not only on the sequence of operational activities, but also on the quality of the information exchanged among the various actors involved. In this regard, information flow and coordination constitute two closely related dimensions, since the circulation of reliable information is a prerequisite for effective coordination. This section therefore first examines information flow within the order management process before addressing the mechanisms through which it supports coordination.

2.3.1 Information flow in the order management process

Information flow is defined here as the circulation of order-related data including order creation, validation, stock confirmation, preparation status, dispatch, delivery and returns across the stages and actors of the order management process. A comprehensive interdisciplinary survey on information flows in supply chains shows that efficient information flows can substantially reduce paperwork, improve communication and shorten cycle times when they are properly structured and supported by appropriate technologies (Pennekamp et al., 2024). Conversely, fragmented or asymmetric information flows can hinder coordination and lead to inconsistent decisions among actors (Esmaeili et al., 2020).

In the context of order management, information flow provides the process with visibility, traceability, and temporal sequencing. It enables actors to know which orders exist, their current status, what resources have been assigned, and which exceptions require attention. From a conceptual standpoint, information flow quality can be characterised through attributes such as data accuracy, timeliness, accessibility, and consistency between system information and operational reality (Pennekamp et al., 2024). When these attributes are weak, information becomes a source of uncertainty rather than a coordination tool (Alwaely et al., 2025).

2.3.2 Coordination mechanisms and interface quality

Coordination refers to the alignment of decisions and actions among different actors and functions involved in the order management process. It has both vertical and horizontal dimensions: vertically, coordination connects managerial and operational levels, while horizontally it connects departments such as sales, warehouse, after-sales, and distribution. Systematic reviews of supply chain integration confirm that effective coordination mechanisms include shared planning processes, information sharing, joint performance goals and conflict-resolution protocols (Alwaely et al., 2025). The critical coordination interface in order management lies between commercial functions, which make promises to customers regarding quantities, deadlines and service conditions, and operational functions, which must physically deliver on these commitments (Kiarie & Thogori, 2025).

When coordination at this interface is weak, functional silos emerge sales may commit to unrealistic deadlines while operations lack the information or capacity to fulfil them, leading to systematic delays, emergency interventions and internal tensions (Guimarães et al., 2025). The order management process therefore acts as the operational bridge through

which commercial promises are translated into actionable tasks for warehouse and distribution, and the quality of coordination at this interface directly conditions the fluidity and reliability of the whole process (Kiarie & Thogori, 2025).

2.3.3 Information flow, coordination and the role of digital support

Advances in digital technologies have reshaped information and coordination mechanisms in order management. Integrated enterprise resource planning (ERP), order management systems (OMS) and warehouse management systems (WMS) enable real-time visibility of orders, stock levels and resource status, making it possible to synchronise decisions across functions and sites (Alwaely et al., 2025). More recent frameworks identify real-time, data-driven decision-making as one of the core pillars for synchronised fulfilment operations (Guimarães et al., 2025).

From a conceptual standpoint, information flow and coordination are treated in this study as a mediating mechanism between operational inefficiencies and logistics performance. When information flows are transparent, timely, and accurate, and when coordination mechanisms are robust, the negative effects of existing inefficiencies can be reduced because problems are detected early and handled collectively (Pennekamp et al., 2024). When information is fragmented and coordination is weak, even relatively minor inefficiencies can have disproportionate effects on the process, as issues propagate undetected and local decisions conflict with overall system objectives (Esmaeili et al., 2020).

2.4 Logistics performance measurement

Logistics performance represents a key concern in the evaluation of the order management process, as it reflects the extent to which operational activities are carried out efficiently and in accordance with organisational objectives. Accordingly, this section introduces the concept of logistics performance and outlines its main dimensions, which provide the analytical basis for assessing the effectiveness of the process under study.

2.4.1 Concept and dimensions of logistics performance

Logistics performance is defined in this study as the degree to which the order management process achieves desired outcomes in terms of responsiveness, reliability, and efficiency. A systematic review of responsive and efficient supply chains confirms that time, quality and cost dimensions constitute the core components of operational performance (Al-Husain & Khorramshahgol, 2025). In the context of order management, these dimensions can be translated into indicators such as order cycle time, order

processing lead time, fill rates, order accuracy, the perfect-order index, logistics cost per order and resource-utilisation ratios (Al-Husain & Khorramshahgol, 2025).

Responsiveness refers to the speed with which the process reacts to customer orders and resolves exceptions (Abdallah et al., 2025). Reliability relates to the consistency and accuracy with which orders are fulfilled, including the proportion of orders delivered on time, in full and without errors (Abdallah et al., 2025). Efficiency concerns the extent to which the process uses labor, space, equipment and transport capacity in a cost-effective manner (Man & Jie, 2021). These three dimensions not only reflect internal process performance but also influence customer satisfaction and competitive positioning (Kiarie & Thogori, 2025).

2.4.2 Fulfilment integrity and service quality

Beyond quantitative metrics, the concept of fulfilment integrity is relevant for assessing the quality of order management. Fulfilment integrity describes the degree of alignment between what is promised to the customer in terms of product specifications, quantities, delivery dates and conditions and what is delivered (Christopher, 2022). It captures not only whether individual orders are correct, but also whether the process delivers a stable and predictable service experience over time (Guimarães et al., 2025).

In many performance frameworks, this idea is operationalised through composite indicators such as the perfect-order index, which combines timeliness, completeness, accuracy and damage-free criteria into a single metric (Nowakowska-Grunt & Strzelczyk, 2019). In this thesis, fulfilment integrity will be used conceptually to interpret how observed inefficiencies and coordination issues affect the quality and coherence of service delivered to both internal and external customers.

2.4.3 Performance as an outcome of system functioning

Within the conceptual framework, logistics performance is treated as the outcome variable that reflects how effectively the order management system operates under the influence of operational inefficiencies and given levels of information flow and coordination. The model assumes that higher levels of inefficiency will be associated with longer order cycle times, greater variability and lower reliability (Man & Jie, 2021). Better information flow and coordination, on the other hand, will be associated with improved performance across responsiveness, reliability and efficiency dimensions (Pennekamp et al., 2024).

This performance perspective also supports the optimisation orientation of the study: by linking specific inefficiencies and coordination problems to measurable performance

outcomes, it becomes possible to identify where improvement efforts and digital support such as the Order Flow platform can have the greatest operational impact (Guimarães et al., 2025).

spective, this lifecycle encompasses the reception and registration of orders in the firm's systems, the verification of customer data and contractual conditions, the allocation of available inventory or capacity, the execution of warehouse operations such as picking and packing, the organisation of transport and delivery, and the updating of administrative and performance records (Kisinga et al., 2025).

Order fulfilment studies emphasise that this process is inherently complex because it combines a series of interdependent activities executed by different functional entities and linked through both informational and material flows. Within a supply chain network, the order acts as a guiding thread that links customer requirements with internal planning and physical distribution, so that demand information can be translated into feasible and coordinated operational plans (Pennekamp et al., 2024). In this thesis, the order management process is therefore conceptualised as the central operational system under analysis: it structures the sequence of actions by which the firm responds to demand and provides the locus where inefficiencies, coordination issues and digital support mechanisms can be observed.

2.5 Digitalisation and technological support of the order management process

2.5.1 Concept of digitalisation in order management

Digitalisation is broadly defined in the academic literature as the adoption and integration of digital technologies into business operations with the objective of enhancing efficiency, improving data exchange, and stimulating innovation in core processes (Daradkeh et al., 2023, as cited in Çetin et al., 2025). In the logistics context, this transformation involves deploying interconnected digital systems such as enterprise resource planning (ERP), warehouse management systems (WMS), and order management systems (OMS) that support the monitoring, sequencing, and execution of order fulfilment activities across functional boundaries (Winkelhaus & Grosse, 2020). Applied specifically to order management, digitalisation refers to the use of integrated information systems that track and coordinate the entire lifecycle of customer orders from capture, validation, and inventory allocation through physical preparation, dispatch, and post-delivery control while maintaining a consistent, up-to-date data source for all actors involved in the process

(Faber, 2015; Pennekamp et al., 2024).

In the conceptual framework of this dissertation, digitalisation is not treated as an independent object of analysis, nor as a sufficient explanation for process performance on its own. Instead, it is understood as an infrastructural layer that supports the execution and monitoring of the order management process one that either reinforces or constrains the quality of information flow and coordination depending on how it is configured and used (Winkelhaus & Grosse, 2020).

2.5.2 Digital tools as enablers of information flow and coordination

The logistics and supply chain literature demonstrates that digital technologies can substantially improve information flow quality particularly in terms of accuracy, timeliness, and accessibility by centralising order-related data and linking it to inventory, capacity, and transport information across the various stages of the fulfilment process (Pennekamp et al., 2024). In digitally integrated environments, WMS and OMS platforms provide real-time visibility over order status, stock levels, and resource allocation, which enables actors in sales, warehouse, and distribution to base their decisions on a common, up-to-date view of operations (Winkelhaus & Grosse, 2020). Research on smart warehouse operations confirms that this type of information interconnection reduces the reliance on informal communication channels, decreases manual reconciliation tasks, and supports faster detection of anomalies or shortages before they propagate into delivery failures (Li et al., 2022, as cited in the smart warehouse review).

Beyond information flow, digital tools can also act as coordination mechanisms by structuring workflows, defining task sequences, and embedding decision rules directly into system interfaces (Pennekamp et al., 2024). A systematic review of Logistics 4.0 confirms that digital platforms including WMS and Transportation Management Systems (TMS) support coordination by integrating material and information flows across departments, automating routine task assignments, and improving the traceability and sequencing of operations (Winkelhaus & Grosse, 2020). Empirical research on supply chain digitalisation further confirms that internal integration through digital technology enhances cross-functional collaboration and improves internal process efficiency, particularly at the interface between commercial, warehousing, and distribution activities (Cui et al., 2022, as cited in Zhao et al., 2023).

However, the academic literature consistently warns that these benefits are conditional rather than automatic. Studies on digital transformation in logistics service providers show

that the main obstacles to effective digitalisation are not technological but organisational including complexity of logistics networks, lack of defined processes, and insufficient alignment between digital tools and operational realities (Cichosz et al., 2020). Research on the maturity of digital supply chains further demonstrates that digital technologies only generate sustained performance gains at higher levels of process maturity, where workflows are standardised, responsibilities are clearly defined, and data quality is sufficiently reliable for systems to function as intended (Büyüközkan & Göçer, 2018, as cited in Krstić et al., 2022). In the absence of these conditions, digitalisation may increase system complexity without improving actual performance, as users revert to informal work-arounds and data inconsistencies undermine the reliability of system outputs (Çetin et al., 2025).

2.5.3 Digital support as a conditional lever for optimisation

Within this conceptual framework, digital tools are positioned as conditional enablers of order management performance: their capacity to improve information flow and coordination depends directly on the structural and organisational maturity of the process they are designed to support (Cichosz et al., 2020). Recent research on supply chain digitalisation confirms this conditionality, showing that the performance pathway runs from digitalisation to supply chain resilience and service performance only when organisational conditions such as process clarity, role definition, and data governance allow digital insights to be translated into coordinated operational actions (Zhao et al., 2023).

The Order Flow platform is conceptually situated within this framework as a prospective tool that could, if implemented under appropriate conditions, help centralise order-related information, structure the interactions between after-sales service, warehouse and distribution functions, and reduce dependence on informal and fragmented communication channels (Pennekamp et al., 2024). Such a platform could, in principle, strengthen the information flow and coordination mechanisms described in subsection 2.3 by providing a shared and real-time view of order status and by formalising key handoffs between the stages of the process (Winkelhaus & Grosse, 2020).

Nevertheless, in line with the logic of this study, the potential contribution of Order Flow is not evaluated independently of the process itself. The academic evidence reviewed in this section leads to the conclusion that the primary prerequisite for any meaningful digital support is a thorough, empirically grounded understanding of how the order management

process currently operates including its procedural bottlenecks, information asymmetries, and coordination failures (Cichosz et al., 2020; Çetin et al., 2025). The qualitative audit conducted in Chapter III is therefore conceived as the necessary diagnostic step that precedes and justifies any discussion of digitalisation as an optimisation lever, ensuring that technological solutions are aligned with the real operational needs and constraints of the order management process at Bergerat Monnoyeur Algeria.

Conclusion

Overall, the first chapter establishes the order management process as an integrated system in which customer demand is transformed into coordinated logistics actions and measurable performance outcomes. It shows that operational inefficiencies are not isolated incidents, but structural disruptions rooted in procedural gaps, information fragmentation and coordination failures, which affect the fluidity and reliability of the process. It also clarifies that information flow, coordination and digital support are decisive mediating mechanisms: when they are weak, inefficiencies intensify; when they are well designed, they can reduce frictions and improve process control. Finally, the framework positions logistics performance as the result of the way the system functions as a whole, while highlighting that digitalisation is not a solution in itself, but a conditional lever whose effectiveness depends on the maturity and organisation of the process it supports.

CHAPTER II: METHODOLOGICAL AND ORGANISATIONAL FRAMEWORK

This chapter is divided into two sections based on the theoretical framework of our study. The second section describes the methodological framework used in our study. The organizational framework of Bergerat Monnoyeur Algeria, the company that is the subject of our study, is described in the second part together with all the information needed to understand its setting and operation.

Section1: Methodological framework

In this section, we will explain the methodological framework, data collection tools, methods, procedures, and measurement tools used to treat our research topic and achieve its goals.

1.1. Epistemological positioning

This research adopts an interpretivist epistemological posture, grounded in an inductive reasoning framework. This approach is particularly appropriate for studying the the analysis of operational inefficiencies in the order management process, by analysing a set of existing data in order to build a theory. The foundation of interpretivism is the idea that reality is multifaceted, socially produced through language and culture, and defined by a flow of experiences and activities rather than a single, objective fact. According to this viewpoint, people's subjective interpretations, narratives, and perceptions of their social environment make up knowledge, which goes beyond oversimplified theories to look for fresh insights into a variety of worldviews. This methodology, which emphasizes an inductive approach, is particularly well-suited for investigating the subtle operational inefficiencies at Bergerat Monnoyeur Algeria because it enables a thorough examination of how various operators perceive and understand process bottlenecks. By adopting a value-bound axiological position, the researcher recognizes their role as a crucial component of the study process, where understanding the "why" behind human-driven delays requires personal reflexivity and interpretation. In order to ensure that the richness of organizational reality is conveyed via the lens of individuals who traverse it on a daily basis, such a framework is perfect for qualitative analyses of small, purposeful samples (Saunders et al., 2022).

1.2 Methodological approach

This study adopts a qualitative exploratory design to rigorously evaluate the operational inefficiencies inherent in the order management process. Grounded in an interpretivist epistemological posture, the methodology utilizes inductive reasoning to transition from granular, descriptive field data toward the construction of a contextualized theoretical

framework. The research is structured around a three-stage methodological continuum comprising diagnosis, analysis, and optimization to evaluate the impact of operational inefficiencies (the independent variable) on the performance and fluidity of the order management process (the dependent variable). To operationalise this approach, in-depth semi-structured interviews are administered to a representative sample of the target population. This qualitative approach ensures that the central aim of addressing bottlenecks and enhancing overall performance is achieved through the analysis of rich, descriptive data, facilitating the development of a theory rooted in the specific organizational reality of the case study.

1.3 Methods and instruments of data collection

Data collecting is a critical element in the conduct of academic research. Within a qualitative framework, the analytical and investigative instruments used must be strictly connected with the research objectives, nature of the inquiry, and specific characteristics of the organizational area. As a result, this study employs a triangulated approach comprised of three core methods: documentary research, direct observation, and semi-structured interviews. These procedures were chosen as the most relevant and rigorous tools for tackling each aspect of the research problem and meeting the study's exploratory needs.

Documentary research

According to Morgan (2022), Document analysis is a qualitative research method that examines and interprets pre-existing materials, including written texts, visual sources, and institutional records, to extract meaning and produce empirical knowledge. This strategy is underutilized in comparison to more participatory approaches such as interviews, despite its ability to deliver rich, contextualized insights from easily available documents. The shortage of methodological contributions devoted exclusively to qualitative document analysis leads to a lack of awareness of its importance, as does the relative scarcity of practical guidance on how to choose, analyze, and interpret documents rigorously. This issue could prevent academics from using document analysis or building the necessary skills to integrate this method systematically into qualitative research designs.

Observation

Observation constitutes an important methodological tool for capturing, in a direct and structured manner, the practical realities of the field. In the context of this study, it makes it possible to examine how activities are actually performed, how actors interact, and how the

order management process unfolds in everyday operational settings.

3.2. Observation as a methodological tool

Observation is a crucial approach for analyzing complex and often opaque organizational contexts, providing a direct window into the workplace's practical realities. While human perception naturally interprets the world through sensory experience, observation as a formal study methodology goes beyond perception; it necessitates a methodical, deliberate, and scientifically informed approach. By raising observation to a rigorous investigative method, researchers can go beyond casual observation and conduct a controlled inquiry that catches the rich intricacies of professional practice.

In organizational contexts with high information density, researchers must strategically direct their attention to select phenomena that are relevant to their research objectives. This study uses concentrated observation to capture the important elements of the order management cycle, with the goal of identifying operational inefficiencies. This technique involved the creation of established observational criteria, such as the fluidity of information flow between departments and the physical bottlenecks observed during order fulfillment picking and shipping phases. To ensure analytical dependability and openness, all field observations were meticulously documented in precise notes, allowing for a thorough and reflective analysis of the collected data.

Observation proved exceptionally valuable in evaluating the organization’s operational culture, the degree of adherence to established standard operating procedures, and the specific technical hurdles that impede process optimization key dimensions for enhancing overall performance.

For the purposes of this study, we adopted non-participant observations for this study to obtain a comprehensive and impartial picture of the case. The researcher was able to document occurrences and behaviors in the natural setting while maintaining the perspective of an impartial outsider by using this kind of direct observation. This technique made it possible to covertly and silently observe workflow sequences, making it easier to record impromptu exchanges and organizational dynamics without directly affecting the surroundings. This method contributed to a deeper interpretation of the data obtained through other qualitative methods by offering rich contextual insights into how operational procedures are applied in practice at Bergerat Monnoyeur Algeria, highlighting significant gaps between formal statements and actual behavior (Ciesielska et al., 2018).

3.3. Qualitative interviewing as a primary investigative tool

In the framework of qualitative inquiry, the interview is viewed as a sophisticated form of consultation and an interactive process in which the researcher aims to extract participants' ideas and opinions on a particular topic. This method is motivated by a rigorous scholarly goal, signifying an attempt to understand the world through the subject's eyes and to uncover the significance of their lived experiences before scientific explanations. As a result, the qualitative interview is seen as critical to the data collection process, provided the researcher creates a professional rapport with the participant to assure the legitimacy of the information acquired. Within this concept, the interviewer is an ethical professional in charge of validating study objectives, whereas the participants are the interviewees.

3.3.1. Typology of interviews

Within a qualitative study, interviews can be categorized based on how they are carried out and the motives behind them. The primary distinction is between informal interviews, which tend to be limited to anecdotal use due to their casual nature, and professional interviews. The latter are distinguished by higher professional standards, are overseen by an analyst who guarantees ethical compliance, and are intended to help participants grasp the research challenge. Furthermore, qualitative interviews are broadly characterized according to their level of structure: organized, semi-structured, and unstructured. The primary distinction between these sorts is the level of control or "power" wielded by the researcher against the flexibility provided to the participants.

3.3.2. Structured interviews

While all interviews have some degree of structure, structured interviews are distinguished by a high level of rigidity and researcher control. In this mode, the interviewer follows a predetermined script and asks brief, closed-ended questions, giving the subject little room for interpretation or contextualization. The researcher must precisely adhere to the chronology and language of the questions, remaining neutral and avoiding interpretation or improvisation. Although this consistency improves reliability and reduces bias, some say that the rigorous setting may discourage participants, making this approach better suited for quantitative data collection than deep qualitative exploration.

3.3.3. Semi-structured interviews

The semi-structured interview, widely regarded as the most common interview type in qualitative research, follows a predetermined plan of topics and questions while allowing for significant procedural flexibility. Unlike the organized approach, its implementation

responds to the participant's responses, allowing the researcher to delve further into intriguing themes or personal insights. This adaptability makes semi-structured in-depth interviews an essential source for qualitative researchers, as they may be used in both individual and group contexts. This strategy is especially effective when participants are chosen using a homogeneous sample process, which ensures their direct relevance to the study subject.

3.3.4. Unstructured interviews

Also known as narrative interviews, are based on the ethnographic tradition of anthropology and are distinguished by their conversational and disconnected nature. In this strategy, the researcher frequently joins the social context, watching and asking casual questions to collect spontaneous data. These can range from non-directive interviews with no pre-planned questions to focused interviews in which the researcher guides the conversation to a specific topic of interest. Despite their lack of formal structure, these interviews are nonetheless an important tool for gathering rich, narrative material that may be lost in more rigorous formats (Adhabi & Anozie, 2017).

Interview guide

As part of this research, Semi-structured interviews were chosen as the main data collection approach for this study, which focuses on optimizing the order management process through the identification of operational inefficiencies. There are two primary justifications for this decision. First off, this approach makes it possible to gather extensive and context-specific data from various process participants without placing strict limitations on their answers. Second, using an interview guide guarantees that the conversation stays in line with the goals of the study while allowing for the exploration of new topics pertaining to operational procedures, coordination systems, and process difficulties.

The interview guide was created to guarantee the depth and structure of this study. It focuses on operational employees who work in warehouses, especially those who are directly involved in carrying out the order management process. The guide is designed to facilitate a thorough understanding of operational procedures, coordination systems, and process-related difficulties in the warehouse setting. It is divided into two primary categories:

General section

Designed to gather background data about the respondents, such as their position, level of involvement in warehouse operations, and experience. This section offers crucial background information for understanding their viewpoints on the order management procedure.

Thematic section on order management process and operational inefficiencies:

This part examines the workflow organization, coordination techniques, and current operational issues with an emphasis on the order management process's practical operation inside warehouse operations. It looks into the types and causes of operational inefficiencies, how they affect process performance (including delays, visibility issues, and the lack of performance indicators), and what respondents think should be improved. Additionally, it looks into how they think digital support tools specifically, the "Order Flow" platform improves coordination, information flow, and overall process efficiency. This structure, which follows a logical path from diagnosis to analysis and optimisation, was created to be in line with the study goals and objectives. By ensuring respondent confidentiality and utilising the data only for scholarly research, ethical considerations were upheld.

3.4. Justification for sample selection

The sampling strategy for this study focuses on important operational stakeholders who are directly involved in carrying out the order management cycle. The Logistics and Operations Responsible, the Operations Team Leader, and two front-line Operators comprise the purposive sample. The participants' vertical involvement in the day-to-day operations of the warehouse, from strategic oversight to detailed job execution, is the basis for this selection. These informants are in a unique position to offer crucial insights into the practical operation of coordination mechanisms and the technical difficulties encountered inside the organizational workflow because of their direct involvement with the process.

Accessibility and direct connection to the study's research goals served as additional selection criteria. These participants are reliable informants for determining the underlying causes of operational inefficiencies and how they affect process performance in the warehouse setting since they are the main actors at the execution level. Data saturation will be carefully assessed during the thematic analysis of the interviews to guarantee the study's empirical depth. This procedure will ascertain whether the data collected has reached a point of redundancy, guaranteeing that the results are adequate to spot recurrent trends and

build solid conclusions within the parameters of this case study.

Table 1: The interviewees

Interviewees	Position	Date and Location	Duration
Interviewee 1	Logistics and operations Responsible	BMA Warehouse	45 min
Interviewee 2	Operations Team Leader	BMA Warehouse	1 h
Interviewee 3	Front Line Operator	BMA Warehouse	30 min
Interviewee 4	Front Line Operator	BMA Warehouse	45 min
Interviewee 5	Logistics Coordinator	BMA Warehouse	45 min

Source: Developed by us

Data treatement and analysis

This study will process empirical data using a systematic and rigorous qualitative analysis. The raw data collected from semi-structured interviews and field observations will be analyzed using NVivo 11, a specialized software developed for high-level qualitative research. The use of this instrument ensures a structured approach to data, which improves the dependability and organization of the findings during the research process.

The analytical method entails multi-stage coding and categorizing interview transcripts, allowing for the shift from raw story to conceptual abstract. NVivo 11 will help discover thematic nodes, repeat trends, and key insights into operational inefficiencies and bottlenecks in the order management process. The study will use the software's query and visualization features to synthesis complicated stakeholder perspectives into a coherent thematic framework, ultimately permitting the provision of targeted optimizations for the organizational workflow.

Nvivo 11

NVivo 11 is a powerful qualitative data analysis software that allows researchers to organize, analyze, and interpret massive amounts of unstructured data, such as interview transcripts and field notes. The software includes advanced features for coding, classifying, and displaying textual data, making it an essential tool for extracting significant patterns from qualitative research.

In this study, NVivo 11 was used to handle data from semi-structured interviews and organizational observations. The instrument enabled a thorough assessment of participant responses, allowing for the discovery of overarching themes and recurring trends

concerning operational inefficiencies throughout the order management cycle. The software's coding

Capabilities enabled it to isolate specific bottlenecks, assess their impact on workflow fluidity, and generate a comprehensive over view of the challenges involved in optimizing logistics performance. This systematic methodology ensures that the final conclusions were based on the empirical facts gathered during field research.

Section 2: Organizational context

This section presents the organisational context in which the present research was conducted. It introduces the company, its main activities, its internal structure, and the departments most directly involved in the order management process. The purpose is to provide the reader with the necessary background to understand the operational environment in which the field investigation took place and to show how the organisation's structure and activities shape the functioning of the process under study.

4.1. Presentation of the host organization

BERGERAT MONNOYEUR ALGÉRIE SPA is a company incorporated under Algerian law and a subsidiary of the Monnoyeur Group (MAGELLAN). It is headed by Mr. Christophe RICHARD, the Managing Director. Its share capital was 2,266,760,800.00 DA in 2025.Present in Algeria since 1976. Its head office is located at Route de Dar el Beida, Lot No. 121, Oued Smar, Algiers. It operates in the import, distribution, maintenance, and repair of construction and industrial equipment, industrial engines, marine engines, generators, and trucks.

It holds the exclusive distribution rights for the Caterpillar (CAT) (construction, mining and quarrying equipment, road construction, engines, and generators), Mercedes-Benz (MB), and SEM (a wholly owned subsidiary of CATERPILLAR) brands throughout the entire national territory. (Internal company documents)

It also provides after-sales service for all these brands, including maintenance, repair, and rebuilding of all industrial vehicles, generators, and industrial and marine engines. BMA is a leader in its field in Algeria thanks to its unique network and a workforce of over 287 employees, offering personalized and unparalleled support for building the future of its clients. Its central warehouses are also available to guarantee the logistics of original spare parts to all worksites. (Internal company documents) BMA makes its expertise available to its clients with over 250 employees dedicated to after-sales service. It assists them in setting up their projects, identifies their needs, and advises them on increasing their

productivity. This clearly demonstrates the importance it places on customer support. BMA is organized in such a way that for each brand represented and in each region of the country, there is a sales team supported by a staff of after-sales inspectors to effectively assist the customer in carrying out their business activities through personalized and tailored advice. (Internal company documents) Investment and deployment across the national territory constitute one of BMA's priorities, which is working to meet the needs of its customers in Algeria that continues to develop. As evidence of this, several workshops are open across the country: Algiers with several specialized sites, Oran, Setif, Constantine, Hassi Messaoud (HMD). (Internal company documents)

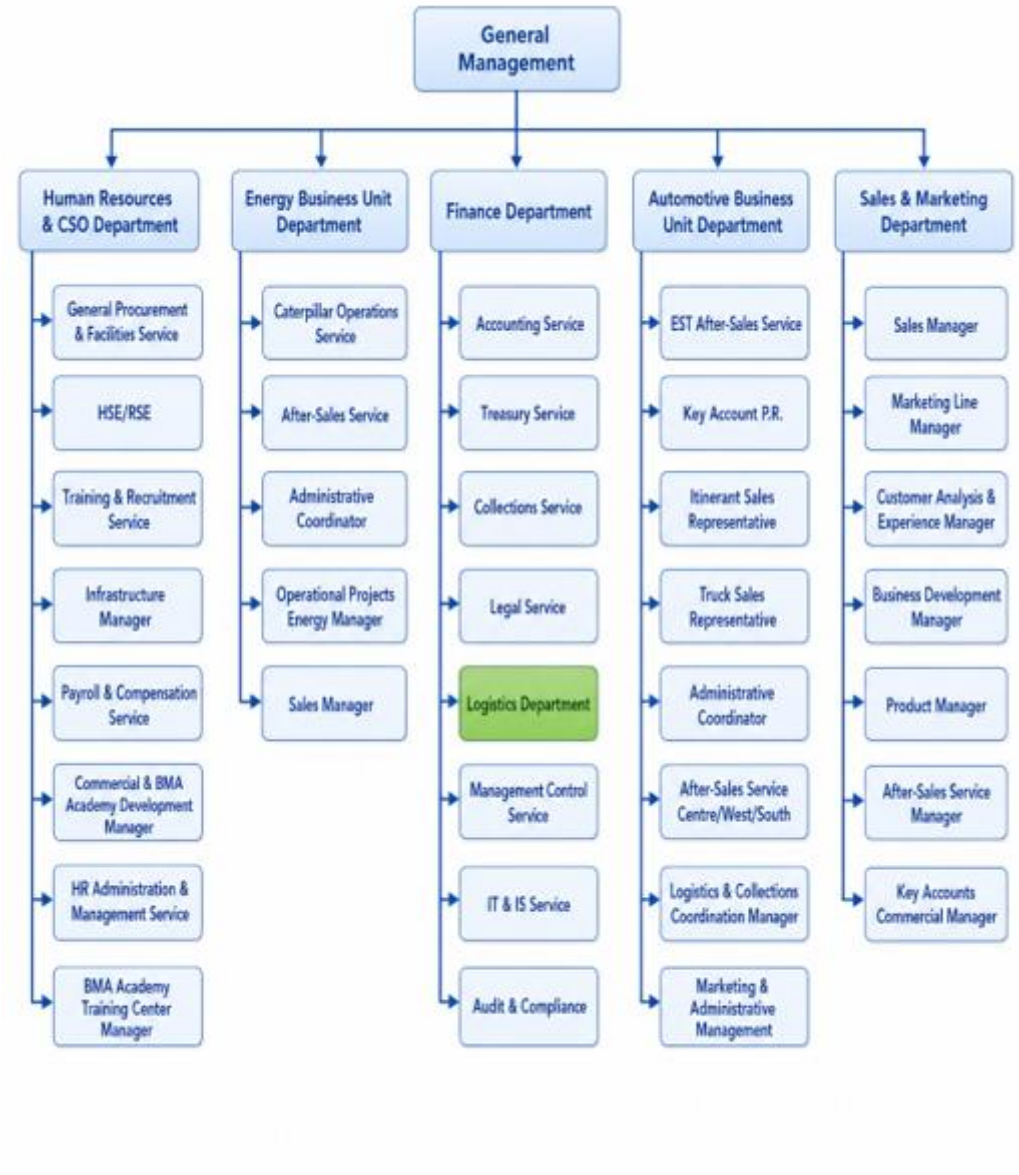
Table 2: BMA company profile

Company's Name	Bergerat Monnoyeur Algeria
Company's Logo	BMA CAT
Date of Establishment	1976
Legal Form	A joint-stock company
Headquarters	Dar El Beida Road, Lot No. 121, Oued Smar, Algiers
Share Capital	2.662.760.800.00 DA
Activities	Distribution, maintenance, repair, and rebuilding of construction equipment and industrial vehicles**.**
Brands Marked	CAT, Eneria CAT, SEM, Mercedes-Benz, Renault Trucks
Employees	287
Contact	Tel: 023 93 01 87 Fax: 023 93 02 07

Source: Internal company documents

This document serves as the company's identity. It contains all the necessary basic information.

Figure 1: BMA organizational chart



Source: Internal company documents

This organizational chart illustrates the hierarchical and functional structure of Bergerat Monnoyeur Algeria (BMA). The company is governed by a General Management, from which authority is delegated to five main directorates operating in parallel: the Human Resources & CSO Department, the Energy Business Unit Department, the Finance Department, the Automotive Business Unit Department, and the Sales & Marketing Department.Within this structure, the Logistics Department occupies a specific hierarchical position under the Finance Department, which itself reports directly to General Management. This position places the Logistics Department at the third level of the organizational hierarchy, under the administrative and financial authority of the Finance Directorate, alongside other services such as Accounting, Treasury, Legal, and

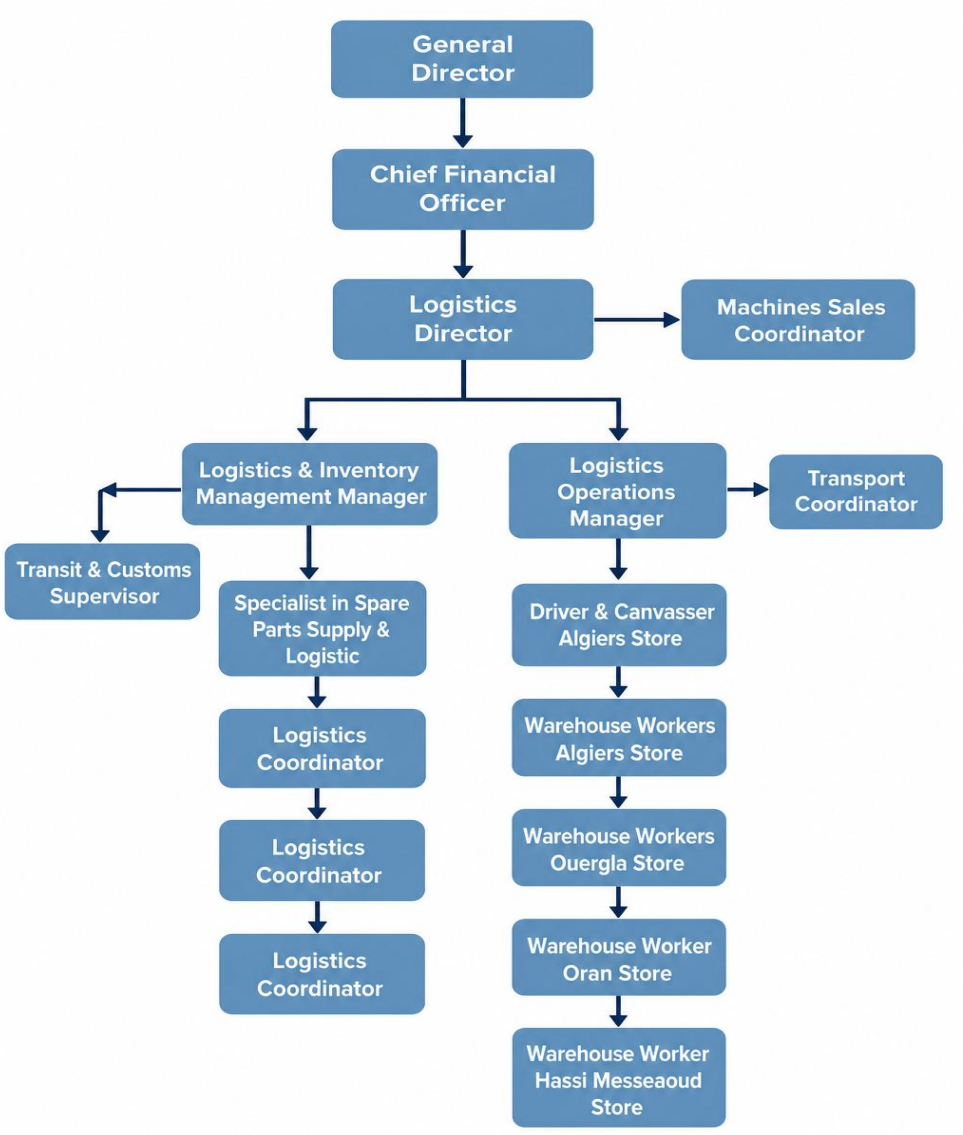
Management Control. From below, the Logistics Department is not subdivided into further visible sub-units at this level of the chart; however, as will be detailed in the logistics organizational chart presented in the following section, it internally oversees a set of specialized functions covering inventory management, supply coordination, warehouse operations, and transport. This hierarchical positioning reflects BMA's strategic choice to integrate logistics governance within its financial and administrative oversight framework, reinforcing the cross-functional nature of the logistics function in supporting both the commercial and after-sales activities of the company.

Figure 2: Coverage zones and brands marketed by BMA

Source: Internal company documents

This figure simultaneously presents the territorial coverage of BMA across the Algerian national territory and the portfolio of brands it exclusively distributes. The map shows the presence of BMA sites in six strategic locations: Algiers, Oran, Constantine, Sétif, Ouargla, and Hassi Messeaoud, which correspond to the country's main industrial and energy hubs. In parallel, the figure highlights the brands commercialized, namely Caterpillar (CAT), Eneria CAT, SEM, Mercedes-Benz, and Renault Trucks, demonstrating the diversity and complementarity of BMA's product offerings across the construction, energy, and transport sectors.

Figure 3: Organizational chart of logistics service



Source: Internal Company Documents

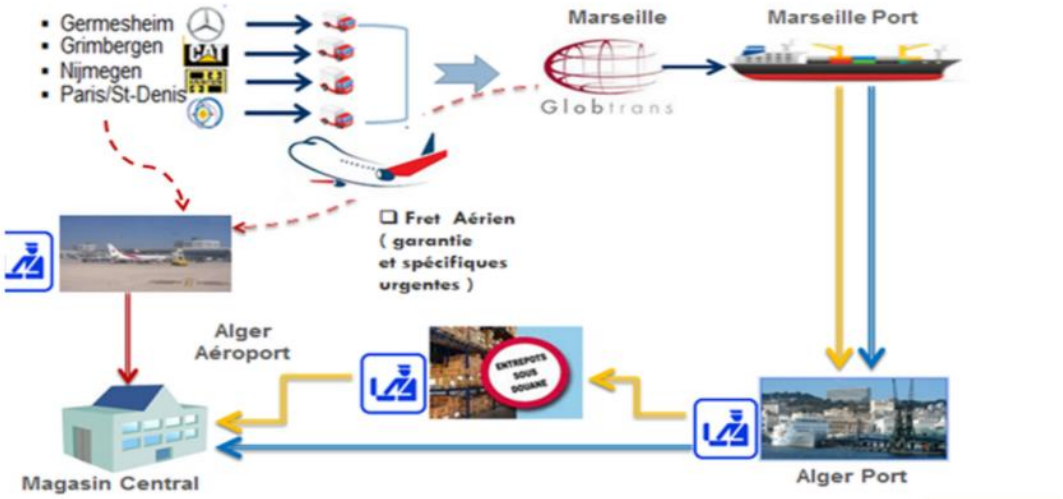
This organizational chart presents the internal structure of BMA's Logistics Directorate, which is placed under the authority of the General Director through the Chief Financial Officer. The Logistics Director oversees two main branches: the Logistics and Inventory Management Manager, who is responsible for spare parts supply, logistics coordination, and transit and customs supervision, and the Logistics Operations Manager, who oversees warehouse activities across the regional stores located in Algiers, Oran, Ouargla, and Hassi Messaoud, as well as transport coordination. This structure reflects the dual mission of the directorate: ensuring inventory availability and guaranteeing physical distribution across the national network.

Figure 4: Order's information flow

Source: Internal company documents

This figure represents the information and order flow operating within BMA's national network. It illustrates how the CAT GRIM central warehouse is linked to the information system DBS+ANTARES, which coordinates the consultation and extraction of order files between the Central Point of Sale in Algiers and all regional stores and points of sale across the territory. This system ensures real-time visibility over stock levels and order statuses, enabling the logistics directorate to plan replenishment operations efficiently and guarantee product availability at each regional location.

Figure 5: Logistics Flow

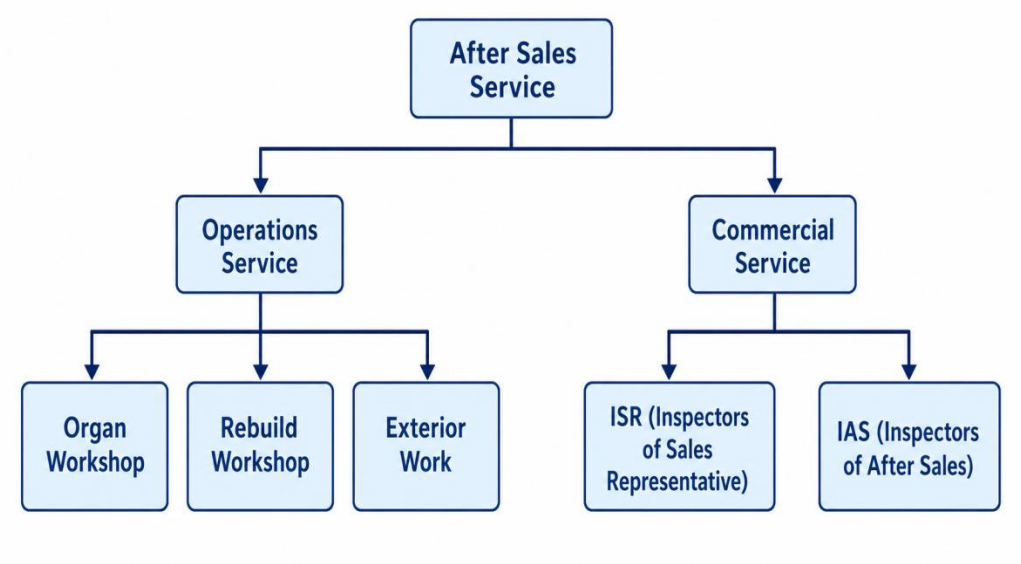


Sources: Internal company documents

This figure depicts the upstream logistics flow of BMA's supply chain, illustrating the movement of spare parts from the European supply centers Germesheim (Mercedes-Benz),

Grimbergen (CAT), Nijmegen, and Paris/Saint-Denis through the consolidation hub at Marseille and onward via sea freight to Algiers Port. An air freight option is also available for urgent and guaranteed orders, ensuring supply continuity in critical situations. Once the goods arrive at Algiers Port, they transit through customs clearance before being transferred to the Central Warehouse, which serves as the main distribution hub for the national network.

Figure 6: Organizational chart of after sales service



Source: Internal company documents

This organizational chart illustrates the internal structure of BMA's After-Sales Service (SAV). The service is organized into two main functional units: the Operations Service, which encompasses the Organ Workshop, the Rebuild Workshop, and Exterior Works, and the Commercial Service, which is composed of two categories of field inspectors — the ISR (Inspectors of Sales Representatives) and the IAS (Inspectors of After Sales). This structure reflects the dual technical and commercial orientation of the after-sales function, which simultaneously ensures maintenance and repair operations and maintains client relationship monitoring across the territory.

Table 3: Distribution of BMA after-sales service workshops

Region	Workshops	
	CAT Activity	MB, SEM, Renault Activities
Alger	2	1
Constantine	0	1
Ouergla	0	1
Oran	1	0
Setif	0	1

Source: Internal company documents

This table presents the geographical distribution of BMA's after-sales service workshops across the national territory. The workshops are located in five regions Algiers, Constantine, Hassi Messeaoud, Oran, and Sétif covering both the CAT and Mercedes-Benz, Renault and SEM activities. Algiers concentrates on the largest number of sites with three dedicated workshops, while the other regions each host one workshop per activity. This distribution reflects BMA's strategic deployment across Algeria's key industrial and energy zones, ensuring localized technical support and minimizing response times for client intervention.

Bergerat monnoyeur algeria values

For over 100 years, the Monnoyeur Group has been by its clients' side. It has anticipated challenges, adapted, made the necessary financial and human investments, and taken calculated risks to consolidate its expertise and ensure the satisfaction of all its clients, both in France and abroad. A Group Built on Strong Values. Shared and championed by the entire Group, our values reflect our excellence and our daily commitment to our clients.

In 2020, the Monnoyeur Group teams mobilized to clearly and simply define the principles of collaboration and management associated with our Group's values.

Together, they brought to life the Monnoyeur Group's "Charter for Living Well Together." Our Group is proud to continue its development based on this foundational document, which empowers everyone to better embody the strong values that unite us on a daily basis.

The company's core values

- Respect.
- Entrepreneurial Spirit.
- Courage.
- Conviviality

Conclusion

In conclusion, the second chapter established the methodological and organisational foundations of the study. It first clarified the epistemological position, research approach, data collection methods, sampling logic and analytical procedure adopted to examine the order management process through a qualitative field investigation. It then presented the organisational context, allowing a better understanding of the environment in which the process operates and of the internal actors involved in its execution. Taken together, this chapter ensures the consistency of the research design and provides the necessary framework for interpreting the empirical results presented in the following chapter.

CHAPTER III:
RESULTS ANALYSIS AND DISCUSSION

This chapter presents and discusses the empirical findings gathered through the qualitative field investigation conducted at Bergerat Monnoyeur Algeria. It is structured around three sections. The first section is dedicated to the presentation and analysis of results through three complementary analytical approaches: the lexical approach, the thematic analysis, and the interview-based findings. The second section provides a discussion of the results considering the academic literature reviewed in the previous chapters. The third section develops concrete optimisation perspectives based on the findings. Together, these sections allow the research to move progressively from an empirical description of the current functioning of the order management process toward a structured, evidence-based diagnosis and a set of actionable improvement recommendations.

Section 1: Analysis of results

This section constitutes the empirical core of the present study. It presents the results obtained from the analysis of the four semi-structured interviews conducted with key actors involved in the order management process at Bergerat Monnoyeur Algeria. The analysis is developed through three progressive approaches. The first is a lexical approach, which offers a quantitative reading of the most frequently recurring words in the interview corpus and provides an initial mapping of the dominant themes. The second and third approaches thematic analysis and interview-based results build on this foundation to explore, in greater depth, the qualitative dimensions that emerged from the participants' discourse.

1.1 Lexical approach

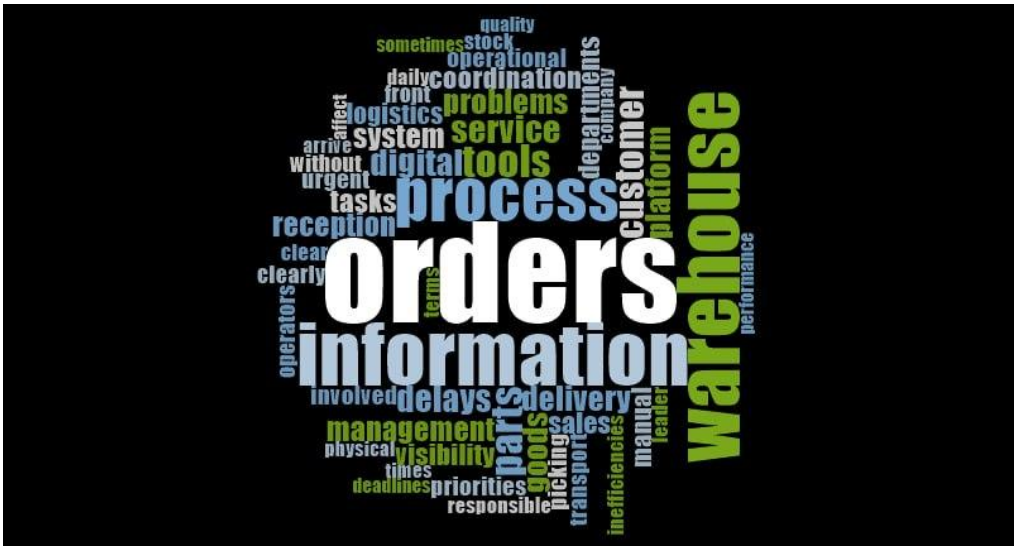
This subsection presents the first analytical layer of the results. Before engaging in a detailed thematic analysis of the interview content, a lexical analysis was conducted using NVivo software. The lexical approach consists of identifying and quantifying the most frequently recurring words across all interview transcripts, with the objective of obtaining an initial, objective, and data-driven overview of the central concerns expressed by the interviewees. This type of analysis is particularly useful in qualitative research because it makes visible the vocabulary that participants spontaneously and consistently use when describing their operational reality, thus providing a reliable first signal of what matters most to them in practice. This subsection presents the results of this lexical analysis in two complementary forms: the word cloud and the word frequency table, followed by an interpretation of their significance in relation to the

research objectives.

1.1.1 The word cloud

The word cloud is a graphical representation of the most frequently mentioned terms in the combined corpus of all four interviews. In this type of visualisation, the size of each word is directly proportional to the number of times it appears across the transcripts: the larger and bolder the word, the more frequently it was mentioned by the participants. This representation allows for an immediate and intuitive identification of the dominant themes that structured the interviewees' discourse, before any interpretive coding or thematic categorisation is applied.

Figure 7: Word Cloud generated using Nvivo 11



Source: developed by us using NVivo 11

As clearly visible in the word cloud, the terms **"orders", "information", "warehouse"** and **"process"** occupy the most prominent positions, confirming that the order management process and its operational components constitute the primary preoccupation of all participants. These four terms alone form the conceptual core of the interviews and are directly aligned with the central research question of this study. At a secondary level of prominence, terms such as "delays", "coordination", **"tools"**, **"visibility"**,**"problems", "delivery", "digital", "management"**, and **"reception"** appear in medium size, indicating that these dimensions are consistently present across the discourse of the different interviewees. Their recurrence points to a shared operational vocabulary around which participants described both the current functioning of the process and the difficulties they encounter in daily practice.

At a third level, smaller but still significant terms such as "manual", "picking", "urgent",

"sales", "departments", "priorities", "customers", "parts", and "goods" complete the picture. These words reflect the operational specificity of the context studied: a spare parts distribution environment marked by urgent customer requests, multi-service coordination, and a mix of manual and digital practices.

1.1.2 The word frequency table

The word frequency table provides the quantitative counterpart to the word cloud. It presents each of the most recurrent terms in descending order of frequency, alongside the total number of occurrences and the weighted percentage, which represents the proportion of that word relative to the total word count of the corpus. This table was generated automatically by NVivo and allows for a precise, reproducible reading of the lexical structure of the interview corpus.

Table 4:Most frequent words in the interviews

Word	Length	Frequency	Weighted percentage (%)
orders	6	128	2.68
information	11	77	1.61
warehouse	9	77	1.61
process	7	63	1.32
tools	5	38	0.80
parts	5	37	0.77
customer	8	34	0.71
service	7	31	0.65
delays	6	30	0.63
digital	7	30	0.63
delivery	8	28	0.59
goods	5	27	0.57
platform	8	27	0.57
problems	8	27	0.57
management	10	26	0.54
reception	9	26	0.54
system	6	26	0.54
tasks	5	25	0.52
coordination	12	24	0.50
sales	5	23	0.48
visibility	10	23	0.48
departments	11	22	0.46
logistics	9	22	0.46
manual	6	21	0.44
involved	8	20	0.42
operational	11	20	0.42
picking	7	20	0.42
priorities	10	20	0.42
urgent	6	20	0.42

Source: developed by us using NVivo 11

1.1.3 Interpretation of the lexical results in relation to the research

The word frequency data does not constitute a result in itself. Its true value lies in what it reveals about the structure of the interviewees' discourse and about the operational realities they consider most important. The following interpretation examines the most significant lexical findings in relation to the four main objectives of this study.

The dominance of "orders" (128 occurrences, 2.68%) is the most striking finding of this lexical analysis. No other term comes close to this frequency, which confirms that the order management process is not simply one topic among others in the interviews, but the central organisational reality around which all participants frame their work, their responsibilities, and their operational difficulties. This finding validates the relevance and the focus of the present research.

The co-dominance of "information" and "warehouse" (77 occurrences each, 1.61%) is equally significant. These two terms appear with identical frequency, which reflects the inseparability, in the participants' experience, of two fundamental dimensions of the order management process: the physical dimension, embodied by the warehouse as the space where orders are received, stored, prepared and dispatched; and the informational dimension, which governs the circulation of data, instructions and updates between the different actors and services involved. The fact that both dimensions are mentioned with the same intensity suggests that neither can be understood without the other a finding that will be explored further in the thematic analysis.

The high frequency of "process" (63 occurrences, 1.32%) confirms that interviewees did not limit themselves to describing individual tasks in isolation. Instead, they consistently reflected on how activities connect and flow across the different stages of the order cycle. This systemic perspective is consistent with the process-oriented approach adopted in this research and with the qualitative methodology chosen.

The cluster of terms related to operational difficulties "delays" (30), "problems" (27), "coordination" (24), "visibility" (23), and "manual" (21) is of particular analytical importance. Taken together, these terms paint a consistent picture of an order management process affected by recurring dysfunctions: time pressure and delivery delays, coordination difficulties between services, limited visibility over order status, and the persistence of manual practices in a context that calls for greater integration. Their combined frequency suggests that these are not peripheral or occasional issues, but

structurally embedded characteristics of the current process configuration.

The presence of "digital" (30), "platform" (27), "tools" (38), and "system" (26) indicates that the question of digital support is a genuine and recurring concern among the actors interviewed. However, the fact that these terms appear at a lower frequency than "delays", "coordination", and "information" is itself a meaningful signal: it suggests that participants experience operational and informational problems first and consider digital tools as a possible response to these problems, rather than as the primary source of difficulty. This hierarchy of concerns is fully consistent with the conceptual orientation of this research, which positions the operational audit as the necessary precondition for any meaningful digitalisation effort.

The specific operational vocabulary found at the bottom of the frequency table “parts" (37), "reception" (26), "picking" (20), "goods" (27), "delivery" (28), "urgent" (20), "priorities" (20) confirms the highly contextualised nature of the order management process at Bergerat Monnoyeur Algeria. These terms reflect the daily operational reality of a spare parts distribution and after-sales logistics environment: a context where urgency is frequent, where physical goods must be tracked from reception to delivery, and where multiple priorities must be managed simultaneously across several business lines.

In summary, the lexical analysis provides a reliable and objective entry point into the interview data. It confirms that the interviews are dense with content directly relevant to the research objectives, and it identifies the main lexical fields operational process, information management, warehouse activities, and operational difficulties that will structure the thematic analysis presented in the following subsection.

2. The linguistic approach: rational and analytical framework

In qualitative research grounded in the interpretivist paradigm, the analysis of interview data does not limit itself to the extraction of thematic categories. It also encompasses a systematic examination of the linguistic structures, lexical choices, and discursive patterns through which informants construct and communicate their understanding of the phenomenon under study. In this research, the linguistic approach constitutes a complementary analytical layer that runs parallel to the thematic analysis of interview content, and is designed to reveal not only what the five interviewees said about the order management process and its operational inefficiencies, but also how each one of them said it that is, the vocabulary they privileged, the semantic domains they activated, and the

conceptual emphasis they gave to specific operational dimensions.

This approach was operationalised through NVivo 11, which was used to process the full transcribed corpus of the five semi-structured interviews conducted at Bergerat Monnoyeur Algeria. NVivo 11 enabled the systematic coding of interview content into thematic nodes, the computation of word frequency queries across individual transcripts, and the generation of a source-to-source similarity matrix based on the linguistic profiles of each interviewee. The similarity matrix produced by NVivo 11 presented and analysed below constitutes the primary quantitative output of the linguistic approach. It expresses, for each pair of informants, the degree of linguistic alignment in the vocabulary and semantic patterns used to describe the order management cycle and its dysfunctions, providing an objective, software-generated measure of discursive proximity or divergence across the sample.

2. NVivo similarity matrix: sources compared by linguistic profile

The following table presents the NVivo 11 source similarity matrix produced from the linguistic analysis of the five interview transcripts. Each cell at the intersection of two sources represents the Pearson correlation coefficient between the word-frequency vectors of those two interviewees, computed across the full coded corpus. A diagonal value of 1 indicates perfect self-similarity (each source is identical to itself). Off-diagonal values measure cross-interview linguistic alignment.

Table 5: NVivo 11 Source Similarity Matrix: Pearson Correlation Coefficients Between Interview Transcripts

	A: Operational Logistics Responsible	B: Warehouse Team Leader	C: Logistics Coordinator	D: Front Line Operator	E: Front Line Operator
1: Operational Logistics Responsible	1	0	-0.25	-0.25	-0.25
2: Warehouse Team Leader	0	1	-0.25	-0.25	-0.25
3: Logistics Coordinator	-0.25	-0.25	1	-0.25	-0.25
4: Front Line Operator	-0.25	-0.25	-0.25	1	-0.25
5: Front Line Operator	-0.25	-0.25	-0.25	-0.25	1

Source: developed by us, based on interview transcripts collected at Bergerat Monnoyeur Algeria.

3. Pairwise correlation summary: all source pairs

The pairwise correlation values extracted from the NVivo similarity matrix are reorganised below in a structured summary table, listing all unique source pairs with their corresponding Pearson correlation coefficient and a brief interpretive classification. This format mirrors the analytical conventions adopted in comparable qualitative corpus study (Hattab, 2025) and facilitates systematic reading of the inter-informant linguistic relationship structure.

Table 6: Pairwise Linguistic Similarity Coefficients Between All Interview Sources

Source A	Source B	Pearson r	Interpretive Classification
A: Operational Logistics Responsible	B: Warehouse Team Leader	0	*Null correlation : no linear linguistic alignment between the two actors; most divergent pair in the corpus.*
A: Operational Logistics Responsible	C: Logistics Coordinator	−0.25	*Weak negative : inverse emphasis across shared themes; governance vs. coordination framing.*
A: Operational Logistics Responsible	D: Front Line Operator	−0.25	*Weak negative :strategic macro-discourse vs. task-level micro-discourse.*
A: Operational Logistics Responsible	E: Front Line Operator	−0.25	*Weak negative :same positional divergence pattern as A/D.*
B: Warehouse Team Leader	C: Logistics Coordinator	−0.25	*Weak negative : supervisory execution framing vs. cross-functional coordination framing.*
B: Warehouse Team Leader	D: Front Line Operator	−0.25	*Weak negative : team leadership discourse vs. individual task-execution discourse.*
B: Warehouse Team Leader	E: Front Line Operator	−0.25	*Weak negative : same positional divergence pattern as B/D.*
C: Logistics Coordinator	D: Front Line Operator	−0.25	*Weak negative :coordination/process discourse vs. execution/physical bottleneck discourse.*
C: Logistics Coordinator	E: Front Line Operator	−0.25	*Weak negative : same pattern as C/D.*
D: Front Line Operator	E: Front Line Operator	−0.25	*Weak negative : both front-line operators; divergence attributable to different task assignments and operational micro-contexts.*

Source: Developed by us

4. Reading the similarity matrix: academic interpretation

The NVivo 11 similarity matrix reveals a strikingly consistent pattern across all ten unique interview pairs: every off-diagonal correlation coefficient is either 0 (the A/B pair)

or −0.25 (all remaining nine pairs). This uniformity is analytically significant. It is not a sign of data inconsistency or measurement error -- it is the direct numerical expression of a fundamental structural characteristic of the sample: the five interviewees occupy five structurally distinct positions within the order management process at BMA, and each position generates a distinct discursive profile that is, at best, unrelated to the others and, at worst, mildly inversely associated with them. No pair of interviewees shares a positively correlated linguistic register, which confirms that the sampling design successfully recruited informants whose perceptual, positional, and experiential vantage points are genuinely heterogeneous.

The single case of $r = 0$, the pair formed by Interviewee A (Operational Logistics Responsible) and Interviewee B (Warehouse Team Leader) -- is particularly instructive. A null correlation does not indicate that these two actors speak about completely different things; it indicates that their word-frequency distributions are orthogonal -- that is, the activation of one semantic domain by one actor corresponds to neither increased nor decreased activation of that domain by the other. This reflects the structural gap between managerial-strategic discourse (A) and supervisory-operational discourse (B): while both actors address the order management process, they do so from non-overlapping conceptual reference frames that produce no linear linguistic co-movement whatsoever.

The nine remaining pairs all return a coefficient of $r = −0.25$, indicating a weak negative correlation -- the most prevalent pattern in the corpus. This value confirms that across all other interviewee combinations, where one actor emphasises a given thematic domain (for instance, procedural standardisation, information traceability, or coordination mechanisms), the other actor tends -- slightly but consistently -- to de-emphasise that same domain and redirect discursive weight toward their own operational priorities. This inverse tendency is weak (magnitude 0.25, well below any threshold of strong association) but systematic: it recurs across all nine pairs without exception, suggesting that positional divergence in how the process is experienced, narrated, and prioritised is the dominant structural feature of the interview corpus.

5. Discursive profiles by position: why the interviewees do not speak about the same things in the same way

The table below provides a structured synthesis of the discursive profile of each of the five interviewees, mapping their organisational position, their dominant semantic field within the interview corpus, and the characteristic framing through which they construct and

communicate their experience of the order management process and its operational inefficiencies. This synthesis draws directly on the thematic coding and word-frequency analysis performed in NVivo 11, and explains at the interpretive level why the similarity matrix yields universally low or negative off-diagonal coefficients.

Table 7: Positional discursive profiles of the five interviewees (NVivo 11 Linguistic Analysis, BMA 2026)

Ref.	Position	Dominant Semantic Field	Thematic Emphasis in the Corpus	Characteristic Framing of Dysfunction
A	Operational Logistics Responsible	Governance, inter-departmental coordination, strategic performance oversight	Absence of performance indicators; coordination failures between services; platform deployment strategy; accountability structures	Macro-level, cross-functional framing: dysfunctions are systemic governance failures that affect the entire order cycle structurally
B	Warehouse Team Leader	Workflow sequencing, process handoffs, supervisory coordination, SOP absence	Procedural inconsistencies at handoff points; downstream consequences of informal practices; team-level execution gaps; picking process management	Intermediate, supervisory framing: dysfunctions are tactical execution problems that generate daily friction between warehouse and upstream departments
C	Logistics Coordinator	Information flow, order traceability, inter-service communication, platform use	Fragmented order status communication; informal information channels; Order Flow adoption gaps; coordination with after-sales and commercial departments	Cross-functional, coordination-centred framing: dysfunctions are communication and information-sharing failures that prevent real-time order visibility
D	Front Line Operator (1)	Task-level execution, physical picking, stock discrepancies, instruction clarity	Unclear preparation instructions; picking errors; physical stock gaps; absence of formalised task routines at the point of order preparation	Micro-level, task-specific framing: dysfunctions are concrete, embodied obstacles encountered at the execution level of the order preparation stage
E	Front Line Operator (2)	Task execution, dispatch preparation,	Inconsistent dispatch procedures; packaging and labelling	Micro-level, task-specific framing: dysfunctions are

		labelling, packing, delivery handoff	variability; absence of standardised end-of-process routines before delivery handoff	execution-level inconsistencies in the final stages of the order cycle before dispatch

Source: Developed by us based on NVivo 11 thematic coding and word-frequency analysis, BMA (2026).

6. Analytical conclusion: the coefficient as epistemological evidence

Taken together, the NVivo similarity matrix and the pairwise correlation table lead to a clear and analytically coherent conclusion: the universal pattern of null-to-weak-negative off-diagonal coefficients ($r = 0$ or $r = -0.25$ across all ten interviewee pairs) reflects not a limitation of the data, but a confirmation of its methodological integrity and epistemological validity. The five interviewees were selected through purposive sampling precisely because they occupy five distinct positions within the order management process at BMA -- from strategic oversight to front-line execution -- and each position generates a distinct discursive reality. What NVivo 11 has measured, and what the correlation matrix makes visible in quantitative form, is the existence of five genuine perceptual registers: five different ways of experiencing, narrating, and prioritising the same operational reality from within five different organisational locations.

Far from undermining the credibility of the data, this pattern of low inter-source correlation reinforces the analytical value of the multi-informant design. As Creswell and Poth (2018) note, triangulation in qualitative research does not require convergent linguistic profiles it requires genuine perceptual diversity that allows the researcher to construct a richer, more complete picture of the phenomenon under study than any single informant could provide. The similarity matrix is, in this sense, not only a methodological validation tool: it is an epistemological document that traces the discursive architecture of the five-actor order management process at BMA and confirms that its operational reality is genuinely multi-layered, multi-voiced, and position-dependent -- exactly as the qualitative design of this research assumed it to be.

3. The thematic approach

The thematic analysis constitutes the interpretive core of this empirical chapter. Its purpose is to systematically examine, across all five semi-structured interviews, the recurring themes, convergences, and nuances that emerge from the interviewees' accounts of the order management process at Bergerat Monnoyeur Algeria. Following

the coding and categorisation phase conducted through NVivo 11, the corpus was organised into four analytical axes, each corresponding to a principal dimension of the research problem: the structure and functioning of the process, the manifestation of operational inefficiencies, their perceived causes and effects, and the optimisation paths envisioned by the field actors. Each axis is examined through the lens of the encoded content, with the analysis drawing systematically on the contribution charts generated by NVivo 11 to situate each interviewee's input. The section then presents the mind maps and the verbatim matrix as instruments of triangulation and cross-reading, before closing with a synthesis of the overarching findings.

Axis 1: Structure and Functioning of the Order Management Process

The first analytical axis reveals a broadly shared understanding of the order management process across all five interviewees, despite the diversity of their involvement at different stages of the operational chain. The process is consistently described as a linear yet multi-actor sequence that begins with the reception of the order in the information system and culminates in the physical delivery of spare parts to the customer. However, the granularity and emphasis of each description varies in direct proportion to the respondent's functional proximity to a given stage of the process.

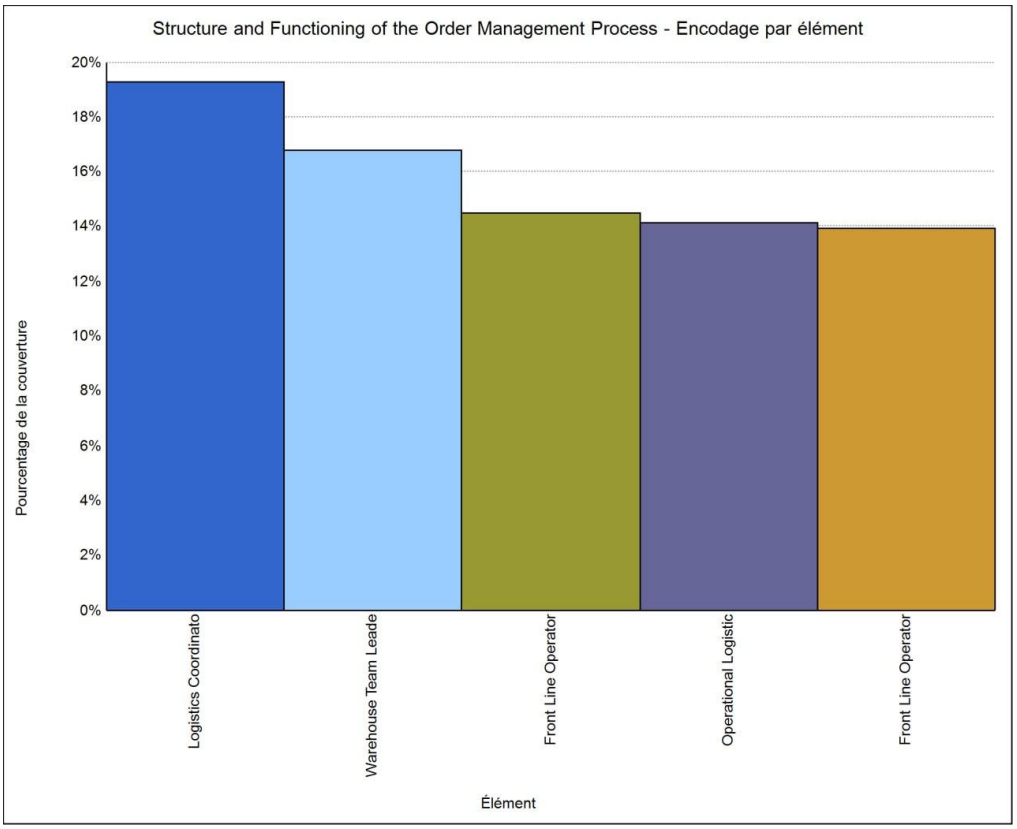
From a logistical coordination perspective, the upstream segment of the process was described in the greatest detail, encompassing the validation of parts by the supplier Caterpillar, the engagement of the freight forwarder, the compilation of customs documentation, and the formal reception of goods at the warehouse through both physical verification and system registration. This exhaustive description of the import cycle reflects a deep familiarity with the commercial and administrative dimensions of order management, including the constraints imposed by international sourcing and customs clearance timelines. From the warehouse floor, the interviewees' accounts centre on the physical execution of the process: the unloading of containers, the sorting of goods between stock and customer orders, the preparation of picking lists, the verification and packing of parts, and the handover to transport. These descriptions, while operationally focused, converge on the same structural constraint identified from the coordination level: the absence of reliable, real-time information to guide each step.

Despite the diversity of perspectives, a single structural limitation emerged with remarkable consistency across all five accounts: the information system DBS provides only superficial transactional data and does not support warehouse location management

or real-time order status tracking. In the absence of such a tool, coordination between the after-sales service, the warehouse, and the distribution team is maintained exclusively through emails, phone calls, and direct interpersonal exchanges. This fragility in the communication architecture of the process was unanimously identified as a foundational constraint that conditions the reliability and efficiency of every downstream step.

The contribution chart below confirms that this axis attracted a balanced level of engagement across all respondents, with the Logistics Coordinator providing the highest proportion of encoded content at approximately 19%, followed by the Warehouse Team Leader at approximately 17%. This distribution reflects the centrality of structural knowledge across all levels of the organisation and the multi-dimensional character of the process itself**.**

Figure 8: Axis A – Structure and Functioning of the Order Management Process



Source: developed by us using NVivo 11

Axis 2: Manifestation of operational inefficiencies

The second axis examines how operational inefficiencies concretely manifest in the daily execution of the order management process. The analysis of the encoded content reveals a strong convergence of observations across all five interviewees, structured around three major categories of dysfunction that are both analytically distinct and operationally

interrelated: informational deficiencies, temporal disruptions, and coordination failures.

The most frequently encoded manifestation concerns the chronic absence of real-time visibility on order status and parts availability. All five interviewees described, in terms specific to their operational context, situations in which they were compelled to perform manual checks, initiate phone verifications, or exchange emails in order to obtain information that, in a fully integrated system, would be directly accessible and automatically updated. This pattern of substituting digital information flows with labour-intensive human interventions represents a structural source of inefficiency that permeates every stage of the process and disproportionately consumes the time and attention of warehouse and coordination staff.

For the interviewees working directly on the warehouse floor, the most acutely felt manifestation is the recurrent inaccuracy of stock and location data within DBS. When the system registers a part at a location where it is no longer physically present, or when it fails to reflect recent movements within the warehouse, operators are forced to conduct manual searches across the storage area, interrupting the preparation flow and generating rework. This phenomenon is not merely a technical inconvenience but a direct contributor to preparation delays and delivery schedule disruptions.

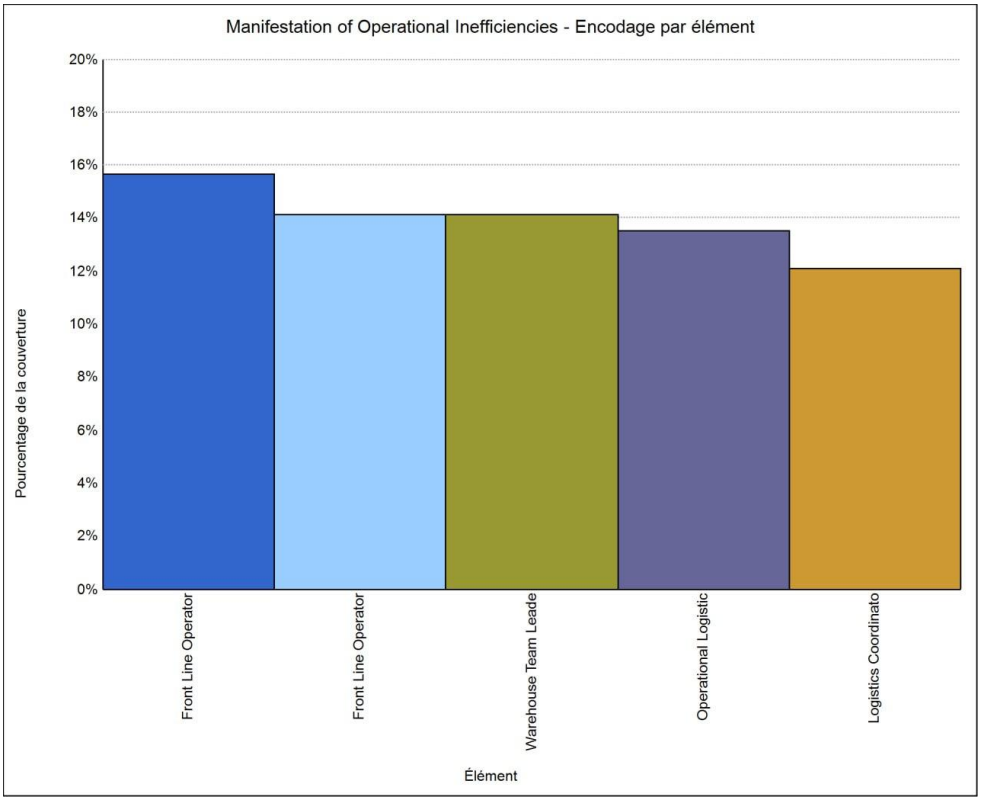
"The most time-consuming step is finding parts when storage information is inaccurate. Mismatches between system data and physical stock cause stops and restarts in the preparation process. Overload occurs when multiple late shipments arrive simultaneously."

A second category of manifestation relates to inter-service coordination breakdowns. The absence of a shared, real-time communication platform obliges the import service, the warehouse team, and the after-sales department to conduct repeated bilateral exchanges in order to synchronise their respective views of the same order. This fragmentation generates overlapping interventions, information transmission delays, and a persistent risk of misalignment between the system flow and the physical flow of goods, ultimately reducing the organisation's capacity for reactive decision-making. A third category concerns the recurrent overload situations triggered by container delays, which compress the team's workload without any compensating tool, staffing adjustment, or pre-established priority protocol.

The contribution chart below shows that the two front line interviewees collectively provided the highest share of encoded content for this axis, which is analytically coherent

given that they are the actors most directly and continuously exposed to the operational manifestations of inefficiency in their daily work.

Figure 9: Axis B – Manifestation of operational inefficiencies



Source: developed by us using NVivo 11

Axis 3: Perceived causes and effects of inefficiencies

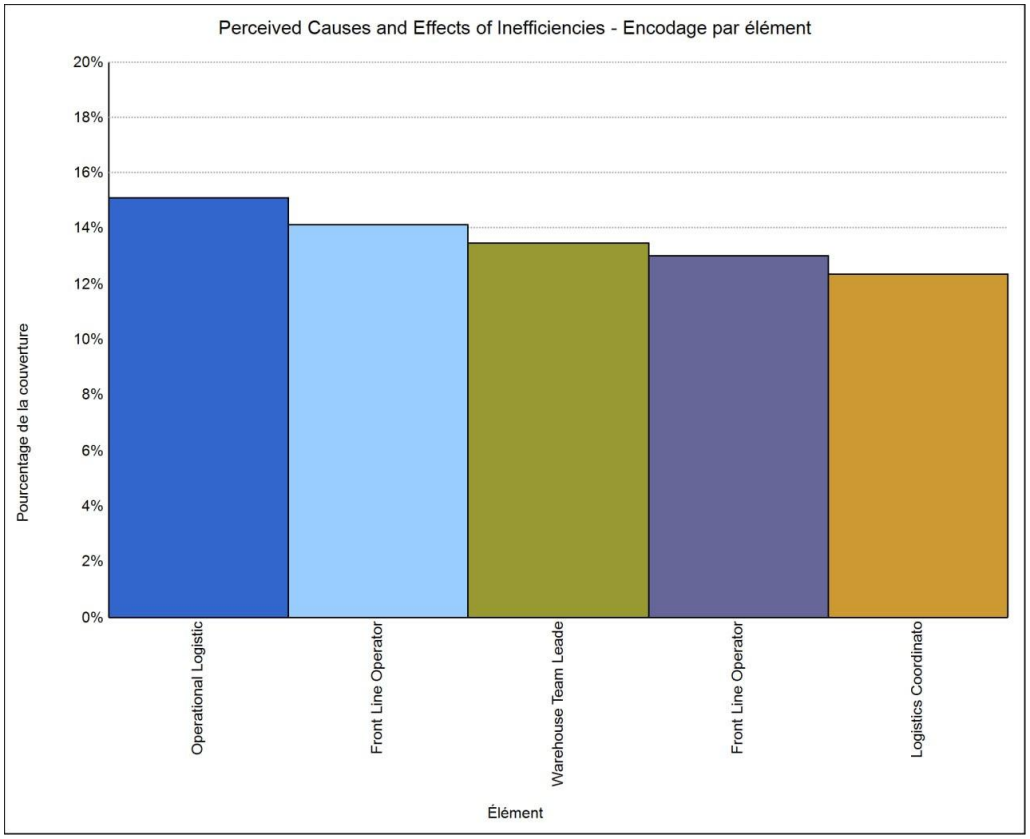
The third axis shifts the analytical focus from the observable manifestations of inefficiency to their underlying causes and their measurable effects on operational performance. The analysis reveals a clear and consistent distinction between internal causes, which are organisational and technological in nature and therefore subject to the company's direct intervention, and external causes, which are rooted in the supply chain environment and represent structural constraints that lie largely beyond the organisation's control. At the internal level, all five interviewees converged on two primary causal factors. The first is the inadequacy of the existing information system DBS, which was described not as a tool that actively supports operational decision-making, but as a passive repository of transactional records that is structurally incapable of generating the location-specific, real-time data that warehouse management requires. The second internal cause is the absence of formalised and consistently applied inter-service procedures. In a context where priority instructions are communicated verbally or informally and where no shared protocol

governs the treatment of urgent orders, operators are repeatedly placed in situations of uncertainty that require them to improvise rather than follow a defined course of action. The warehouse-based interviewees further identified a third internal factor: the instability of the priority schedule. When urgent orders are inserted into the preparation queue without advance notice, previously committed resources must be reallocated immediately and without a structured framework, generating interruptions, partial preparations, and a degradation of the overall workload rhythm. The cumulative effect of these three internal causes is a process that is perpetually reactive rather than proactive, absorbing its own dysfunctions instead of preventing them.

"Causes include container delays, part shortages, lack of inter-service communication, and non-adapted tools. Impacts include delivery delays, reduced service quality, disrupted internal coordination, increased rework, and stress for the warehouse team."

At the external level, container delays were unanimously identified as the primary structural cause beyond the organisation's control. Their impact is considerably amplified by the internal factors described above: in the absence of a digital platform capable of anticipating arrivals and pre-allocating preparation resources, delayed containers that arrive simultaneously overwhelm the team's capacity and trigger a cascade of downstream disruptions. The perceived effects were described consistently across all five accounts: at the customer-facing level, delivery delays and partial orders were cited as the primary outcomes, while at the internal level, rework, stock discrepancies, and congestion were identified as systemic consequences that compound over time. The contribution chart for this axis shows a broadly even distribution across all five interviewees, confirming that causes and effects of inefficiency are perceived as a shared organisational reality at every level of the process.

Figure 10: Axis C – Perceived causes and effects of inefficiencies



Source: developed by us using NVivo 11

Axis 4: Optimisation paths and digital support of the order management process

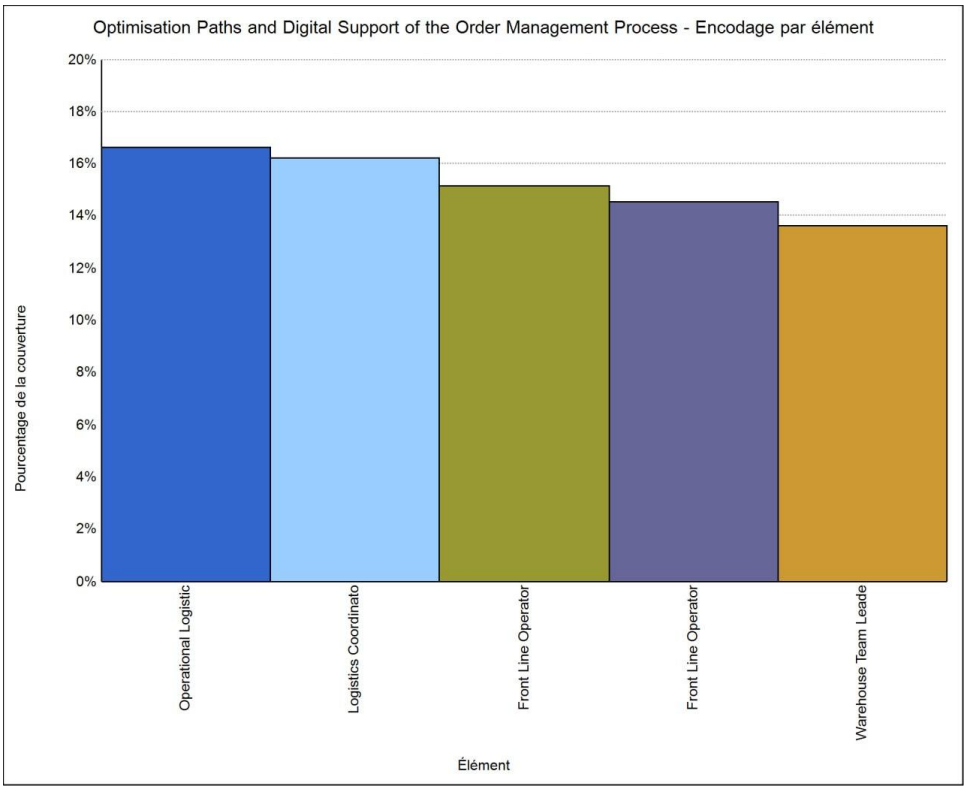
The fourth and final axis concentrates on the improvement proposals formulated by the interviewees and on their expectations regarding the digital tools that could support the transformation of the order management process. The analysis reveals a strong, spontaneous, and cross-cutting orientation toward digital transformation as the primary and most urgent lever for addressing the operational challenges identified in the preceding axes. This orientation was expressed independently by all five interviewees and does not appear to have been induced by the framing of the interview questions, which suggests that it reflects a genuinely shared operational need rather than a prescribed institutional discourse. At the coordination level, the dominant expectation is the implementation of a centralised digital platform that would integrate the import service, the warehouse, and the after-sales department within a single, shared information environment. Such a tool would enable each actor to consult and update order statuses in real time, without relying on email chains or telephone calls to confirm information that should be directly and continuously accessible. The Logistics Coordinator articulated this vision with particular precision:

"I would propose the implementation of a centralised digital tool allowing better visibility across the entire order cycle. This tool should enable real-time tracking, reduce manual interventions, and automate certain status update steps. The objective would be to make information more reliable and to streamline processing between services."

At the warehouse floor level, the optimisation expectations are more granular and operationally specific. The two front line interviewees independently described the same set of priorities: accurate inventory and precise location management accessible through the information system, digital picking support through handheld scanners, and a mechanism for automatically updating order statuses as preparation progresses. Both interviewees described an identical desired scenario in which a platform would allow them to consult and update order statuses directly from the warehouse floor without interrupting their work to contact the after-sales department.

Regarding the Order Flow platform specifically, all five interviewees confirmed awareness of the tool and demonstrated a clear understanding of its intended role. Its primary contribution was uniformly described as providing a structured digital follow-up of orders after physical reception, strengthening traceability across the operational chain, and enabling each service to monitor progress and assign responsibility at each step. The interviewees also identified with notable clarity a set of conditions that must be met for digital transformation to produce its intended effects: the reliability of data entered into the system, the adaptation of existing operational processes to align with the tool's logic, the provision of structured and differentiated training, and the development of clear written inter-service procedures. The Warehouse Team Leader further highlighted resistance to change as a potential obstacle to adoption. The contribution chart for this axis indicates that Interviewee 01 provided the highest proportion of encoded content at approximately 17%, closely followed by Interviewee 02, reflecting the broader organisational perspective that these actors bring to the question of digital transformation.

Figure 11: Axis D – Optimisation paths and digital support of the order management process



Source: developed by us using NVivo 11

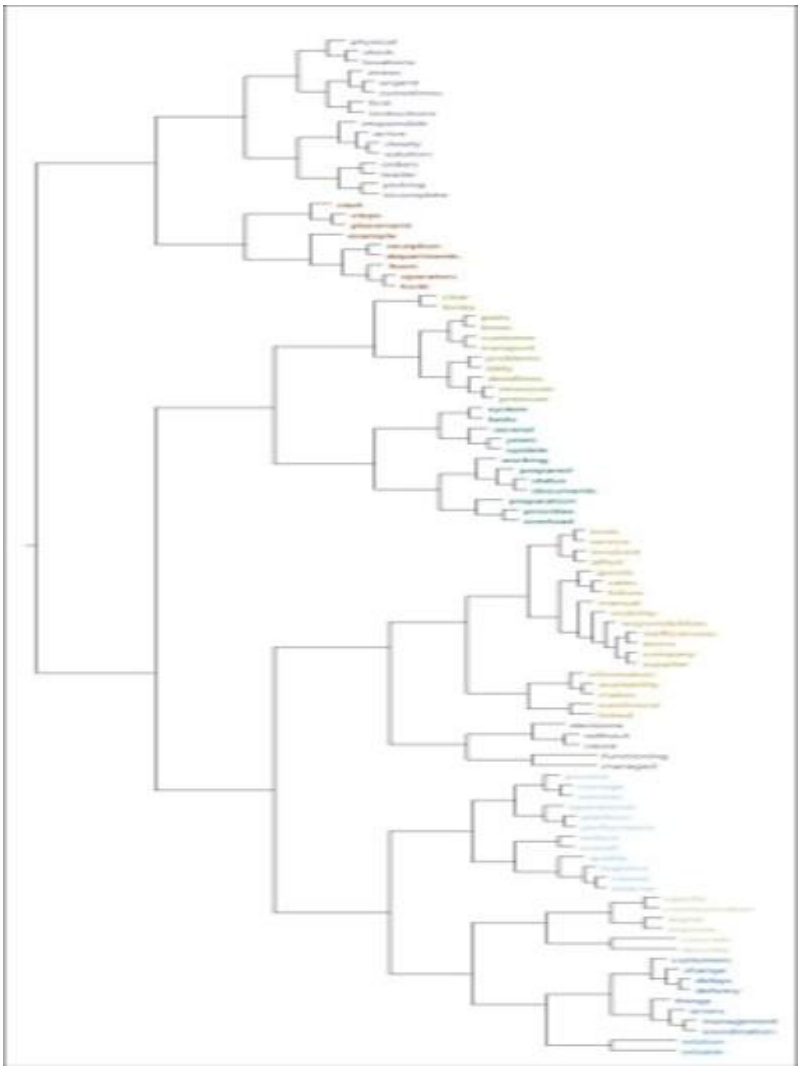
Thematic Coding Overview: Mind Maps

Two mind maps were generated through NVivo 11 as part of the qualitative data processing procedure. These visualisations serve a dual analytical function: they provide a structural map of the coding architecture applied to the corpus, and they offer a readable synthesis of the semantic relationships between the principal themes and sub-themes that emerged from the interviews. Considered together, the two mind maps make an important and distinctive contribution to the thematic analysis by rendering visible the internal organisation of the coded material in a way that textual description alone cannot fully capture.

The first mind map presents the overall thematic tree generated from the full corpus. Its architecture mirrors the four-axis structure of the analytical framework, with each main branch corresponding to one of the research axes and each secondary branch capturing a category of sub-themes nested within it. The visual density of each branch reflects the relative volume of encoded content associated with that theme: the branches corresponding to informational deficiencies, coordination failures, and digital optimisation expectations

emerge as the most developed, which aligns precisely with the interpretive findings of the thematic analysis. Nodes such as delays, stock, picking, visibility, platform, and tools appear repeatedly across multiple branches, revealing that these concepts function as cross-cutting themes that link the four axes into a coherent analytical whole. The recurrence of these nodes across distinct thematic clusters is not incidental: it confirms that the operational difficulties experienced by the interviewees are not isolated dysfunctions but interconnected manifestations of a single underlying problem, namely the structural inadequacy of the information architecture supporting the order management process.

Figure 12: Thematic mind map of the order management process and its four analytical axes



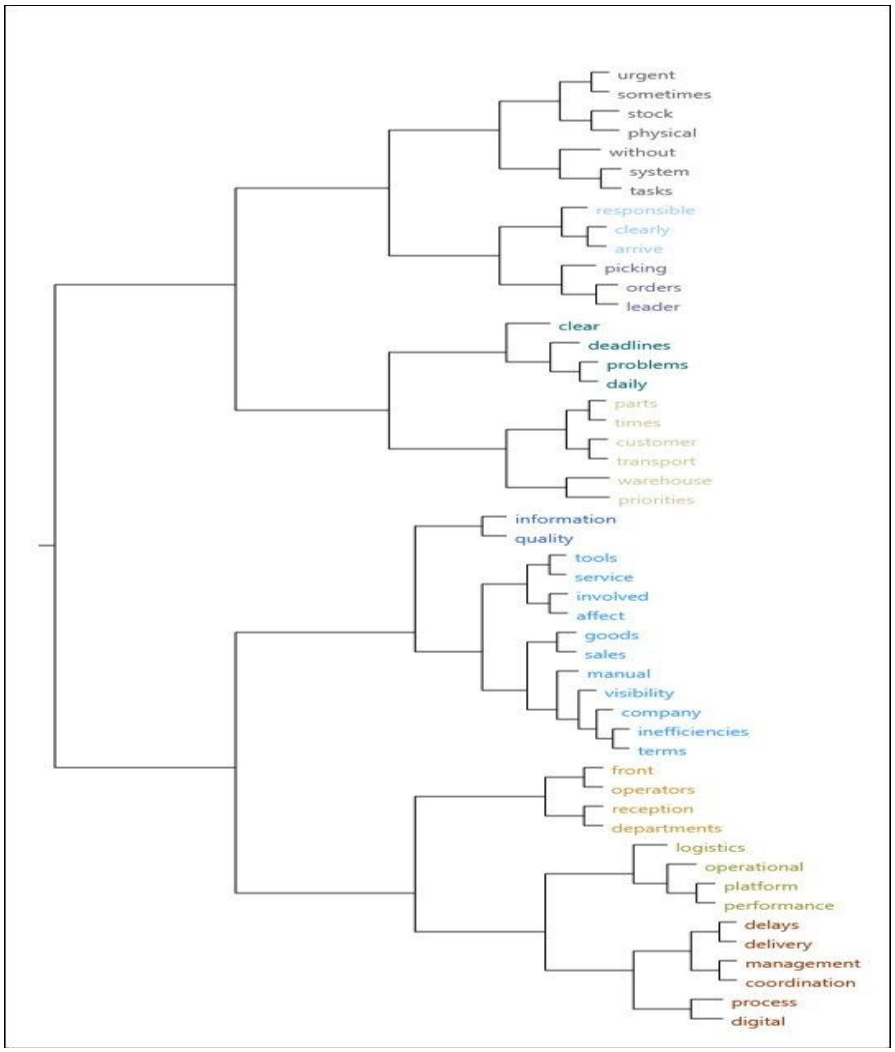
Source: developed by us using NVivo 11

The second mind map adopts a more granular perspective, focusing on the sub-thematic level within each axis. It disaggregates the coding tree to reveal the specific vocabulary and conceptual distinctions that the interviewees employed in their descriptions, showing how

the broad category of operational inefficiency is internally differentiated into picking errors, stock mismatches, communication gaps, deadline pressures, and manual workload, each corresponding to a distinct operational reality experienced at a specific stage of the process. This level of granularity is particularly valuable for the axis on causes and effects, where the mind map makes visible the causal chain running from tool inadequacy and procedural instability through coordination breakdowns and overload situations to the downstream effects of delivery delays and service quality deterioration. By materialising this causal logic in a visual form, the mind map enriches and substantiates the interpretive argument developed in the thematic analysis and strengthens the internal validity of the findings.

Taken together, the two mind maps contribute to the thematic analysis in three specific ways. First, they provide an external validation of the coding structure by demonstrating that the categories applied to the corpus are analytically grounded and internally consistent rather than arbitrarily imposed. Second, they reveal the cross-cutting nature of key themes, showing that concepts such as information, visibility, and digital tools are not confined to a single axis but traverse the entire analytical framework, reinforcing the argument that the challenges identified are systemic rather than localised. Third, they serve as a bridge between the detailed axis-by-axis interpretation and the synthetic reading proposed in the conclusion, offering a visual overview that complements the textual argument and allows the reader to apprehend the structure of the findings at a glance.

Figure 13: Sub-thematic mind map of operational inefficiencies and their causal effects”



Source: developed by us using NVivo 11

Verbatim matrix

The verbatim matrix constitutes one of the central analytical instruments of this thematic analysis. Constructed from the coded transcripts produced through NVivo 11, it organises the essential content of each interview across the four analytical axes, enabling a systematic and direct cross-reading of the five accounts in a single structured document. Unlike a simple summary, the matrix preserves the specificity of each interviewee's perspective while simultaneously making visible the convergences, distinctions, and complementarities that exist between their respective accounts.

From a methodological standpoint, the verbatim matrix performs a triangulation function of considerable analytical value. By juxtaposing five independent accounts of the same process across four thematic dimensions, it allows the researcher to verify the consistency of the interpretive findings derived from the axis-by-axis analysis and to identify any divergences or nuances that the global reading might have obscured. In the present case,

the matrix confirms three major thematic convergences: the universal identification of DBS as an inadequate and limiting tool, the shared perception that inter-service communication is structurally fragile, and the unanimous endorsement of a digital platform as the primary optimisation lever. At the same time, it highlights meaningful differences in the level of detail and the operational emphasis of each account, which are analytically informative rather than contradictory, reflecting the legitimate diversity of perspectives across the five functional positions represented in the sample.

The matrix is organised in five rows, each corresponding to one interviewee identified by number, and four columns corresponding to the four analytical axes. This format, which draws on the methodological tradition of qualitative content analysis as applied to interview-based research, provides the reader with a structured and legible synthesis of the corpus that complements and supports the interpretive argument developed throughout this section. It should be read in conjunction with the contribution charts and the mind maps, which provide additional dimensions of triangulation and contextualisation.

Table 8: Verbatim matrix : synthesis of interview responses per analytical axis

Interviewee	A: Structure and Functioning of the Order Management Process	B: Manifestation of Operational Inefficiencies	C: Perceived Causes and Effects of Inefficiencies	D: Optimisation Paths and Digital Support
01	Process starts at warehouse with unloading and formal reception (PV de réception). Goods sorted between stock and customer orders. No unified platform	No unified communication channel between departments. No KPIs to measure slowdowns. Constant back-and-forth by phone and email generates unnecessary	Internal causes: no strategic investment in digital tools, no proper ERP for warehouse locations, no barcode terminals. Impact: high error risk, longer delivery	Priorities: dedicated digital platform, ERP managing locations, barcode terminals. Order Flow role: collect operational data, measure productivity, real-time inter-service

	as DBS cannot manage warehouse locations. Coordination relies on phone calls, emails and face-to-face.	corrections and delays.	times, operators unable to prioritise urgent orders.	communication. Condition: management commitment and digital infrastructure investment.
02	Orders start with document reception and system processing. Caterpillar invoices validated parts. Freight forwarder handles customs clearance. Goods transported to warehouse, physically received, then delivered. Key actors: supplier, freight forwarder, warehouse operators, after-sales.	Non-adapted tools force frequent manual checks. No real-time visibility on parts availability. Manual data reconciliation across multiple tools. Redundant exchanges between import, warehouse and after-sales.	Root causes: non-adapted tools and fragmented visibility, leading to multiplied manual exchanges. Impact: reduced responsiveness, after-sales delays, lower customer satisfaction, poor sync between system and physical flow.	Priorities: centralised digital tool with real-time tracking, unified platform, standardised monitoring. Order Flow role: digital follow-up post-reception, improving traceability. Conditions: reliable data entry, process adaptation, user training.

03	Parts arrival: system recording, sorting between stock and customer orders, then picking, packing, handover to transport. DBS provides only superficial data with no location visibility. Coordination relies on emails.	Lack of staff, part shortages and deadline pressure make the process heavy. Delays from container arrivals and missing information. Non-value-added tasks absorb significant team time.	Causes: container delays, part shortages, lack of communication, non-adapted tools. Impact: delivery delays, reduced service quality, disrupted coordination, increased rework and stress.	Priorities: digital tracking platform, written inter-service procedures, resolve staffing and parts issues. Order Flow role: real-time order status and responsibility visibility per step. Condition: clear procedures and change management.

04	Arrival: unload, check quantities and references, store or stage for customer orders, pick, verify, pack, dispatch. Work with printed documents and basic system screens, no scanners, no real-time order status.	Most time-consuming: finding parts when storage info is inaccurate. System and physical stock mismatches cause stops and restarts. Overload when multiple late shipments arrive simultaneously.	Root causes: incorrect inventory info, unstable priority procedures, limited digital support. Problems originate upstream from missing parts and unclear order changes. Impact: late deliveries, rework, congestion,	Priorities: accurate inventory and location management, digital picking with scanners, clearer priority planning. Order Flow role: instant order status visibility, direct operator updates, eliminates inter-department calls. Condition: training and clean stock data.

			schedule disruption.	
05	Arrival: unload, physical check per documents, store or stage, pick per instructions, check, pack, dispatch. DBS lacks location detail and real-time status. Rely on printed lists and verbal instructions, no handheld scanners.	Picking and checking slowest when information is imprecise. System and physical stock gaps require team leader calls and recounts. Back-and-forth increases with last-minute order changes. Overload peaks after container delays.	Causes: outdated stock info, unclear priorities, no real-time guiding tools. Impact: late deliveries, partial orders, rework, warehouse congestion, disrupted transport schedules.	Priorities: reliable stock locations, handheld scanners, clear urgent order visibility. Order Flow role: real-time status view, direct updates while working, eliminates after-sales calls. Condition: uniform rules, operator training, regular stock data maintenance

Source: developed by us

Synthesis of the thematic analysis

Taken together, the four axes of the thematic analysis construct a coherent, multi-layered, and internally consistent picture of the order management process at Bergerat Monnoyeur Algeria. The structural description offered by Axis 1 establishes the operational framework and the actor network within which the inefficiencies documented under Axis 2 are produced. The causal reading of Axis 3 identifies the mechanisms, both internal and external to the organisation, through which these dysfunctions are generated and perpetuated, while Axis 4 maps the improvement trajectories collectively envisioned by the field actors, grounding the optimisation argument in the direct experience and operational knowledge of those who execute the process daily.

Three convergent themes cut across all four axes and constitute the interpretive backbone of this analysis. The first is the structural inadequacy of the information system DBS, which emerges at every level of the organisation as the primary technological constraint amplifying all other inefficiencies. The second is the fragmentation of information flows between services, which generates a coordination deficit that cannot be resolved through

interpersonal effort alone and requires a structural digital intervention to be sustainably addressed. The third is the universal perception of a digital platform, and of the Order Flow tool in particular, as the most relevant and feasible response to the operational challenges identified, provided that its deployment is accompanied by clear inter-service procedures, differentiated user training, and a genuine commitment to change management at the organisational level.

Section 2: Discussion of results

This section constitutes the analytical core of the present research. It is organised in two complementary parts: the first places the empirical findings in direct dialogue with the theoretical and conceptual contributions mobilised in Chapter I, interpreting each set of results in light of the academic literature and providing answers to the three sub-questions derived from the central research question; the second translates the diagnostic insights into a concrete, structured, and prioritised improvement programme, articulated around an operational action plan, an impact and feasibility evaluation grid, and a criticality assessment table providing Bergerat Monnoyeur Algeria with a directly deployable optimisation roadmap for its order management process.

2.1 Interpretation of findings in light of the literature

The central research question of this study asks: How can the order management process be optimised through an in-depth audit of its functioning? To answer this question, three sub-questions were formulated, each targeting a distinct analytical dimension of the investigation. The following sub-sections address each sub-question in turn, confronting the empirical findings obtained through semi-structured interviews and non-participant observation at BMA with the academic contributions reviewed in Chapter I. This systematic dialogue between field evidence and theoretical knowledge constitutes the epistemological backbone of a qualitative interpretivist research design and ensures that the conclusions drawn are simultaneously empirically grounded and theoretically situated.

2.1.1 Sub-Question 1: How does the order management process function operationally from the perspective of the actors involved?

The first sub-question aims to reconstruct the actual configuration of the order management process at BMA by examining how key activities, interfaces, responsibilities, and tools are organised in practice, and how actors perceive the progression of orders along the operational chain. The empirical investigation reveals a process that is structurally complex, multi-actor, and only partially formalised a configuration that generates

significant variability in execution across order cycles, business lines, and operational personnel.

At the level of process architecture, the audit confirms that the order management cycle at BMA spans six principal stages: order reception and validation, stock reservation and triage, warehouse preparation and picking, dispatch, delivery, and after-sales service closure. This structural sequence is consistent with the reference model proposed by Framinan et al. (2003), whose foundational work maps the order fulfilment cycle as a succession of information flows, decision nodes, and inter-functional handoffs that collectively determine the integrity and timeliness of order execution. However, while the formal architecture of the process at BMA corresponds broadly to this model, the field investigation reveals that the actual execution of several stages deviates significantly from any formalised protocol: actors operate according to implicit routines, individual interpretations, and informal communication habits rather than explicitly documented and consistently applied procedures.

From the perspective of the actors involved, the process is experienced as segmented and opaque. Each function the commercial department, the after-sales service, the logistics coordinator, and the warehouse team perceives the order cycle primarily from its own operational vantage point, without visibility over the upstream and downstream stages managed by other departments. This observation aligns with the findings of Kisinga et al. (2025), who demonstrate that the effectiveness of the order management process is conditioned by the degree to which actors share a coherent, end-to-end understanding of the full order lifecycle a condition that, at BMA, is only partially met. Similarly, Kiarie and Thogori (2025) establish that the supply chain performance of firms operating in industrial distribution contexts depends directly on the integration of order management practices across functions: when departments manage their segment of the order cycle in isolation, the cumulative effect of misaligned actions at handoff points degrades both process fluidity and service reliability.

The role of digital tools and particularly the Order Flow platform in structuring the daily operation of the process is significant but uneven. The field investigation reveals that Order Flow is used inconsistently across functions and stages, with some actors systematically updating order status within the platform while others continue to rely on parallel informal channels such as phone calls, handwritten notes, and verbal instructions. This finding resonates directly with Cichosz et al.'s (2020) demonstration that digital tools in logistics

contexts only generate sustained process improvement when they are embedded within standardised, well-defined workflows that anchor their adoption for all actors simultaneously a condition that the partial and inconsistent use of Order Flow at BMA has not yet fulfilled. The resulting coexistence of formal digital tracking and informal analogue practices constitutes one of the most structurally significant features of the order management process as it currently operates at BMA, and one that the in-depth audit makes visible with a degree of operational granularity that the existing literature had not previously achieved in this type of industrial distribution and after-sales services context.

2.1.2 Sub-Question 2: Which operational inefficiencies become visible when the order management process is analysed in depth?

The second sub-question asks which operational inefficiencies emerge from the in-depth audit of the order management process at BMA the concrete manifestations of dysfunction, procedural, informational, and coordination-related, that alter the fluidity and predictability of the order flow. The field investigation identifies nine distinct, empirically documented inefficiencies, which can be grouped into three structural categories corresponding to the diagnostic framework established in the literature review: procedural insufficiency, information fragmentation, and coordination breakdown.

In the domain of procedural insufficiency, the audit reveals the absence of documented Standard Operating Procedures governing the two most critical stages of the order cycle: order reception and validation, and warehouse operations (triage, picking, and preparation for dispatch). Actors at both stages operate according to individual routines and informal interpretations, generating structural variability in execution outcomes that is independent of individual competence. This finding directly confirms and empirically instantiates the theoretical proposition of Alwaely et al. (2025), who identify the gap between formally prescribed procedures and actual execution practices as the most prevalent structural root of process dysfunction in logistics organisations. Abi Kannan and Senthilkumar (2025) further demonstrate, in a methodologically comparable field-based diagnostic, that the absence of standardised procedures at the order intake and preparation stages produces compounding bottlenecks that extend lead times and prevent the process from achieving consistent, predictable performance.

In the domain of information fragmentation, the audit makes visible the asynchronous and non-standardised flow of order-related information across the BMA value chain. Stock availability, order preparation progress, and dispatch status are communicated through a

multiplicity of informal channels that operate in parallel with and often in contradiction to the Order Flow platform's tracking capabilities. Nguyen and Ngo (2025) establish information discontinuity as one of the primary structural drivers of logistics inefficiency, demonstrating that the absence of a shared, real-time information infrastructure prevents decision synchronisation across the different functions involved in order fulfilment. At BMA, this fragmentation is further compounded by the partial and inconsistent adoption of Order Flow, which -- despite its technical capabilities for end-to-end traceability has not yet replaced the informal tracking habits of all process actors, leaving the information architecture of the order cycle in a state of hybrid, partially unreliable opacity. This configuration is consistent with the observation of Zhen and Li (2022) that digital warehouse management systems only generate their expected efficiency benefits when implemented universally and supported by complementary organisational protocols.

In the domain of coordination breakdown, the audit identifies the structural absence of a formalised accountability framework no RACI matrix, no shared KPI system, and no structured inter-departmental coordination mechanism capable of aligning the actions of the commercial department, the after-sales service, the logistics coordinator, and the warehouse team around shared process objectives. Omoush (2022) demonstrates empirically that order process management effectiveness is inseparable from the quality of the coordination mechanisms governing it across functional interfaces, while Al-Husain and Khorramshahgol (2025) establish that the measurement and management of logistics performance requires shared KPIs defined at the cross-functional process level rather than within individual departmental silos. The absence of both elements at BMA means that dysfunctions at handoff points accumulate without being systematically detected or addressed, and that performance degradation remains invisible until it has already generated consequences in terms of order delays, picking errors, and client dissatisfaction.

Taken together, these three categories of inefficiency procedural insufficiency, information fragmentation, and coordination breakdown constitute a mutually reinforcing structural configuration that is self-perpetuating: the absence of standardised procedures prevents effective use of digital tools, whose underutilisation sustains information fragmentation, which in turn entrenches the siloed functioning of departments and makes coordination failures structurally invisible. This systemic dynamic, made visible only through the in-depth audit conducted in this research, confirms and extends the diagnostic literature: it demonstrates that operational inefficiencies in the order management process are not

peripheral frictions but structurally embedded conditions that require a process-level, audit-based approach to diagnose precisely the contribution that this study makes to the existing body of knowledge.

The third sub-question asks what practical and organisational levers can be mobilised to optimise the order management process in light of the diagnostic findings and whether interventions such as process standardisation, strengthened coordination mechanisms, and enhanced information flows can transform audit insights into actionable optimisation measures. The empirical investigation, combined with the prescriptive orientations of the literature, supports three primary and sequenced improvement axes.

The first axis process standardisation and procedural formalisation constitutes the foundational layer of the optimisation programme, without which all subsequent interventions risk producing only unstable and short-lived improvements. Sharvan and Ustenko (2025) are unambiguous on this point: optimisation efforts applied to insufficiently structured processes generate temporary corrections rather than sustainable performance gains. For BMA, this axis translates into the development and implementation of Standard Operating Procedures (SOPs) for all critical stages of the order cycle order reception, stock triage, picking, preparation for dispatch, and order closure supported by a formalised RACI matrix that assigns clear accountability for each activity and each inter-functional handoff. Abi Kannan and Senthilkumar (2025) confirm that this type of procedural formalisation, when implemented rigorously and communicated to all actors, directly reduces input errors, shortens processing lead times, and establishes the operational consistency that enables effective performance monitoring.

The second axis coordination and information flow strengthening addresses the information fragmentation and organisational siloing identified as the primary structural root causes of inefficiency at BMA. Nguyen and Ngo (2025) establish that sustainable logistics performance requires the coherent synchronisation of information flows across all functions involved in the order fulfilment cycle. Palomino-Paucar et al. (2025) demonstrate, in a spare-parts distribution context that is directly comparable to BMA's operational environment, that the redesign of coordination mechanisms between commercial and warehouse functions produces measurable reductions in order preparation time and error rates. For BMA, this axis encompasses: the formalisation of an interdepartmental information protocol requiring all actors to update order status within Order Flow at each defined stage of the cycle; the definition of a set of shared KPIs (order

cycle time, fill rate, on-time delivery rate, order accuracy rate, and after-sales response time); and the institutionalisation of a weekly cross-functional coordination meeting that enables early detection of emerging dysfunctions and shared ownership of process performance.

The third axis digital support optimisation concerns the full, consistent, and universal deployment of the Order Flow platform as the single reference system for order tracking, status management, and traceability across the entire order cycle. Tjahjono et al. (2017) and Cichosz et al. (2020) both establish that digital tools generate sustained performance benefits only when adopted universally by all process actors and integrated within formally documented workflows conditions that have not yet been achieved at BMA. The deployment of Order Flow must therefore be supported by structured, role-specific user training; a mandatory order status update protocol at each defined stage of the cycle; automated alerts for stages exceeding defined time thresholds; and the integration of platform outputs into the shared performance monitoring framework. When combined with the formalised procedures and strengthened coordination mechanisms of the first two axes, this digital layer creates the conditions for end-to-end visibility and proactive order management that the current operational configuration at BMA does not yet provide.

The three improvement axes are mutually reinforcing and must be understood as components of a coherent, sequenced optimisation programme rather than independent corrective measures. This systemic perspective aligns with the integrated view proposed by Okumu et al. (2024), who demonstrate that sustainable performance improvement in logistics systems requires the coordinated redesign of processes, coordination mechanisms, and technological infrastructure simultaneously. Section 2.2 below translates these three axes into a concrete, structured, and prioritised action plan.

2.2 Improvements and recommendations: the action plan

Moving from diagnosis to action, this section translates the empirical findings and theoretical orientations developed in Section 2.1 into a structured, prioritised, and operationally grounded improvement programme for the order management process at Bergerat Monnoyeur Algeria. The programme is articulated around three complementary components: (1) a detailed action plan presenting each recommended action alongside its targeted dysfunction, specific objective, responsible actor(s), implementation timeline, and expected outcomes; (2) an evaluation grid assessing each action along two dimensions expected impact on the dysfunction and feasibility of implementation within BMA's

operational constraints enabling the rational sequencing of improvement efforts; and (3) a criticality assessment table that classifies each identified dysfunction according to its severity, occurrence, and detectability, producing a criticality index that determines the urgency of its treatment.

2.2.1 Action plan for the optimisation of the order management process

The action plan presented below is derived directly from the intersection of the diagnostic findings obtained through the field audit and the improvement orientations supported by the academic literature. Each of the nine proposed actions targets a specific, empirically observed dysfunction, is formulated in operational terms that are directly applicable within the context of BMA and is assigned to a responsible actor with a realistic implementation timeline. The actions are grouped into the three improvement axes identified in the previous sub-section.

Table 9: Action plan for the optimisation of the order management process at BMA

	Dysfunction Targeted	Action to Implement	Objective	Responsible Actor(s)	Timeline	Expected Outcomes
Axis 1 – Structure and Functioning of the Order Management Process						
A1	Absence of Standard Operating Procedures governing order reception and validation -- actors rely on individual informal routines generating variability and input errors at the	Develop, document, and implement SOPs covering the full order reception and validation sequence for all business lines (commercial orders, after-sales spare parts, and distribution flows). Deploy	Eliminate procedural ambiguity at order cycle entry; reduce input errors and rework; ensure consistent execution across shifts and personnel; create the traceability	Logistics Director & Operations Team Leader	0 – 30 days	Reduction in order entry errors; shorter processing lead times; consistent execution across all operators; improved traceability from order creation.

	first stage of the order cycle.	physical and digital checklists at each validation step.	baseline for all subsequent stages.			
A2	Absence of SOPs governing warehouse operations (receiving, triage, stock allocation, picking, preparation for dispatch) operations rely on individual experience and verbal instructions without documented standards.	Formalise and document SOPs for all warehouse activities from receiving to shipment confirmation. Integrate physical and digital checklists at each warehouse stage. Define picking routes, triage protocols, and preparation standards per order type.	Standardise warehouse execution; reduce picking errors; improve order preparation throughput and accuracy; create the operational foundation for effective adoption of digital support tools.	Warehouse Team Leader & Logistics Director	0 – 45 days	Lower picking

	Dysfunction Targeted	**Action to Implement**	**Objective**	**Responsible Actor(s)**	**Timeline**	**Expected Outcomes**
A 3	Absence of a RACI matrix	Define and formalise a	Clarify accountability	Logistics Director &	15 – 45 days	Cleaner handoff

	defining responsibilities and accountability at each stage of the order cycle -- responsibilities are informally allocated, generating ambiguity at inter-functional handoffs and unresolved accountability gaps.	RACI matrix (Responsible, Accountable, Consulted, Informed) for each stage of the full order cycle, from order placement to delivery confirmation and after-sales closure. Validate with all department heads and communicate to all actors.	at every handoff point; eliminate duplications and gaps in responsibility; reduce inter-departmental friction; create the governance framework for the coordination improvements in Axis 2.	Department Heads		execution; reduced inter-departmental conflict; fewer unresolved exceptions; clear accountability at each stage of the order cycle.
Axis 2 – Manifestation of Operational Inefficiencies						
B 1	Fragmented information flow between the commercial department, the after-sales service, and the warehouse -- actors rely	Establish a shared, real-time information protocol requiring all actors to update order status, stock availability, and	Ensure simultaneous and reliable order visibility for all functions; eliminate redundant follow-up communications;	Logistics Coordinator & IT Department	30 – 60 days	Elimination of redundant follow-up communications; real-time order status visibility for all actors; improved cross-functional

	on informal channels (phone calls, verbal notes) generating asynchronous and unreliable information exchanges that produce coordination failures at inter-functional handoffs.	preparation progress within Order Flow at each defined stage of the cycle. Formalise the protocol in writing and deactivate parallel informal communication channels as the primary tracking method.	synchronise decisions across departments; reduce information-driven delays and coordination errors.			synchronisation; significant reduction in information-driven delays.

	Dysfunction Targeted	Action to Implement	Objective	Responsible Actor(s)	Timeline	Expected Outcomes
B 2	Absence of shared KPIs and a performance monitoring framework -- the order management process is not systematically measured,	Define and implement a set of shared KPIs for the order management process: order cycle time, fill rate, on-time delivery rate, order	Create an objective performance measurement framework; enable proactive bottleneck detection; support data-driven	Logistics Director & Operations Responsible	30 – 60 days	Objective measurement of process performance; early detection and quantification of bottlenecks; data-driven improvement

	preventing the objective detection of recurring dysfunctions and evidence-based evaluation of improvement efforts.	accuracy rate, and after-sales response time. Establish a monthly monitoring dashboard accessible to all department heads and the Logistics Director.	decision-making; provide a quantifiable baseline for evaluating the impact of the optimisation programme.			prioritisation; demonstrated, traceable performance progress.
B 3	Absence of a structured inter-departmental coordination mechanism -- no regular operational meetings or shared process review forums exist to detect emerging dysfunctions and align actors around	Institute a weekly operational coordination meeting (30–45 minutes) bringing together the logistics coordinator, the warehouse team leader, the after-sales service representative, and the distribution	Create a structured forum for cross-functional process management; enable early detection of coordination failures; foster shared ownership of process performance; establish a systematic early	Logistics Director (chair) & All Operational Departments	30 days	Faster identification and resolution of emerging dysfunctions; improved inter-departmental alignment; shared responsibility for process performance outcomes.

	shared performance objectives.	representative to review KPI results, discuss active order exceptions, and assign corrective actions.	warning system for recurring inefficiencies .			
Axis 3 – Optimisation Paths and Digital Support of the Order Management Process						

	Dysfunction Targeted	Action to Implement	Objective	Responsible Actor(s)	Timeline	Expected Outcomes
C 1	Partial and inconsistent adoption of the Order Flow platform -- the tool is deployed but not uniformly used, leading to the parallel persistence of informal tracking practices that undermine the platform's traceability	Conduct structured, role-specific training sessions for all Order Flow users; formalise the platform as the single mandatory reference system for all order tracking, status updates, and inter-departmental communication. Define and	Achieve full and consistent adoption of Order Flow across all process actors; eliminate parallel informal tracking practices; leverage the platform's full coordination and end-to-end	IT Department & Operations Team Leader	15 – 45 days	Unified order tracking system; elimination of parallel informal practices; real-time visibility across all order stages; significant reduction in information gaps and processing duplication.

	and coordination functions and perpetuate information fragmentation.	communicate a clear non-compliance protocol for actors who continue to rely on parallel informal channels.	visibility capabilities.			
C 2	Incomplete end-to-end order traceability order status is not systematically recorded at each stage of the cycle within Order Flow, preventing proactive delay management and the identification of recurring bottleneck locations.	Implement a mandatory order status update protocol within Order Flow at each of the following defined stages: order reception, stock reservation, warehouse preparation launch, dispatch confirmation, delivery confirmation, and after-sales closure.	Guarantee full end-to-end traceability for every order; enable proactive delay detection and management; provide management with a complete and reliable view of the order cycle at all times; generate reliable data for KPI	Logistics Coordinator & Front-Line Operators	45 – 75 days	Complete lifecycle traceability for every order; proactive delay management; improved client responsiveness; reliable data foundation for KPI monitoring.

		Integrate automated alerts for stages exceeding defined time thresholds.	calculation.			

	Dysfunction Targeted	Action to Implement	Objective	Responsible Actor(s)	Timeline	Expected Outcomes
C 3	Absence of an order closure procedure and after-sales feedback loop -- the order cycle terminates at dispatch without delivery confirmation, post-delivery anomaly recording, or structured capture of after-sales feedback for	Design and implement an order closure procedure within Order Flow encompassing : delivery confirmation by the client, systematic recording of post-delivery anomalies (damages, shortages, delays), and a structured after-sales feedback capture mechanism	Capture recurring after-sales dysfunctions ; close the information loop between delivery performance and process design; feed closure data into the continuous improvement cycle to enable progressive process refinement.	After-Sales Service Manager & Logistics Coordinator	60 – 90 days	Improved post-delivery service quality; systematic identification of recurring error patterns; data-driven process refinement; improved client satisfaction and loyalty.

	continuous process improvemen.	linked to order records.				

Source: Developed by us based on field investigation findings (2025).

2.2.2 Evaluation Grid: Current State Assessment of the Order Management Process

Before formulating the improvement actions presented in the action plan, it is necessary to establish an objective assessment of the current state of the order management process at Bergerat Monnoyeur Algeria. The evaluation grid presented below is not a post-intervention scorecard: it is a pre-optimisation diagnostic instrument designed to assess, for each identified dysfunction, two critical dimensions that together determine the urgency and the sequencing of corrective action.

The first dimension is the Current Impact on Process Performance -- the degree to which the dysfunction, in its present state and without any corrective intervention, negatively affects the order management process in terms of responsiveness, reliability, coordination quality, and service delivery. This dimension is rated on a scale of 1 to 5, where 1 denotes a negligible or localised effect on overall process performance, and 5 denotes a structurally degrading, cross-functional impact that compromises the fluidity and predictability of the entire order cycle. The higher this score, the more urgent the treatment of the dysfunction.

The second dimension is the Feasibility of Corrective Intervention -- the ease with which a corrective action addressing the dysfunction can be implemented within BMA's current operational, organisational, and resource constraints. This dimension is rated on a scale of 1 to 5, where 1 denotes an intervention that requires extensive restructuring, significant financial investment, or prolonged preparation, and 5 denotes an intervention that can be initiated immediately with existing resources and personnel without significant organisational disruption. The higher this score, the more accessible the corrective action under current conditions.

The combination of these two scores produces a Priority Level that determines the sequencing of each corrective action within the improvement programme: Critical Priority designates dysfunctions whose current impact is high and whose correction is immediately feasible these constitute the mandatory first wave of intervention; High Priority designates dysfunctions of significant current impact requiring moderately structured preparation; and Moderate Priority designates dysfunctions whose current impact is real but limited, and whose correction depends on the prior consolidation of higher-priority actions. This grid

thus functions as the rational, evidence-based prioritisation instrument that bridges the diagnostic findings of the audit and the structured optimisation programme proposed in the action plan.

Table 10: Pre-optimisation evaluation grid: current state of the order management process at BMA

Ref.	Identified Dysfunction (Current State)	Current Impact on Process Performance (1 = negligible → 5 = structurally degrading)	Feasibility of Corrective Intervention (1 = complex/costly → 5 = immediate/accessible)	Priority Level
AXIS 1 – STRUCTURE AND FUNCTIONING OF THE ORDER MANAGEMENT PROCESS				
D1	Absence of Standard Operating Procedures (SOPs) for order reception and validation: actors rely on individual informal routines, generating structural variability and recurring input errors at the entry point of the order	**5/5** *Affects every subsequent stage of the cycle; produces cascading errors in stock reservation, picking, and dispatch.*	**5/5** *Requires only documentation and formalisation of existing practices; no technical investment needed; achievable within 30 days.*	**CRITICAL PRIORITY**

	cycle.			
D2	Absence of SOPs for warehouse operations (triage, stock allocation, picking, preparation for dispatch): warehouse execution relies on individual experience and verbal instructions without documented standards.	**5/5** *Directly generates picking errors, preparation inconsistencies, and unpredictable throughput that degrades order accuracy and delivery reliability.*	**5/5** *Formalisation of existing warehouse practices; no new equipment required; achievable within 45 days with existing personnel.*	**CRITICAL PRIORITY**
AXIS 2 – MANIFESTATION OF OPERATIONAL INEFFICIENCIES				
D3	Fragmented information flow between the commercial department, after-sales service, and warehouse: actors rely on informal, asynchronous channels (phone calls, verbal notes) as the primary means of order status communication.	**5/5** *Produces coordination failures at all inter-functional handoffs; generates status errors, missed preparation launches, and untracked order exceptions.*	**4/5** *Requires formalisation of a communication protocol and enforcement of Order Flow usage; moderate coordination effort but no new infrastructure.*	**CRITICAL PRIORITY**
D4	Partial and inconsistent adoption of the Order Flow	**5/5** *Prevents end-to-end traceability;*	**4/5** *Structured training and a mandatory adoption*	**CRITICAL PRIORITY**

	platform: the tool is deployed but not uniformly used, perpetuating parallel informal tracking practices that undermine traceability and real-time visibility across the order cycle.	*sustains information gaps; makes proactive delay management impossible; undermines all coordination efforts.*	*protocol are sufficient; platform is already installed and operational.*	

Ref.	Identified Dysfunction (Current State)	Current Impact on Process Performance (1 = negligible → 5 = structurally degrading)	Feasibility of Corrective Intervention (1 = complex/costly → 5 = immediate/accessible)	Priority Level
D5	Incomplete end-to-end order traceability: order status is not systematically recorded within Order Flow at each stage of the cycle, leaving management without a reliable, real-time view of order progression.	**4/5** *Prevents proactive delay detection; makes it impossible to identify bottleneck locations; degrades responsiveness to client inquiries.*	**3/5** *Requires definition and enforcement of a mandatory status update protocol; depends partly on prior resolution of D4.*	**HIGH PRIORITY**
AXIS 3 – PERCEIVED CAUSES AND EFFECTS OF INEFFICIENCIES				
D6	Absence of a RACI	**4/5**	**4/5**	**CRITICAL**

	accountability matrix: responsibilities at inter-functional handoffs are informally allocated, generating ambiguity, duplication, and accountability gaps across the order cycle.	*Produces unresolved exceptions at handoff points; generates inter-departmental conflict; allows dysfunctions to persist without clear ownership.*	*Requires a structured workshop with department heads to define and validate the RACI; no financial investment; achievable within 45 days.*	**PRIORITY**
D7	Absence of shared KPIs and a performance monitoring framework: the order management process is not objectively measured, preventing the systematic detection of recurring dysfunctions and evidence-based improvement prioritisation.	**4/5** *Renders dysfunctions invisible at the management level until consequences are already severe; prevents continuous improvement culture from forming.*	**4/5** *Requires definition of KPI set and dashboard design; moderate effort; achievable within 60 days.*	**HIGH PRIORITY**
D8	Absence of a structured inter-departmental coordination mechanism: no	**4/5** *Allows coordination failures to accumulate*	**5/5** *Requires only scheduling and chairing of a weekly meeting; no resources needed; immediately*	**HIGH PRIORITY**

	regular operational meetings or shared process review forums exist, leaving emerging dysfunctions undetected until they generate downstream consequences.	*silently; prevents actors from developing a shared, end-to-end view of process performance.*	*implementable within 30 days.*	
AXIS 4 – OPTIMISATION PATHS AND DIGITAL SUPPORT OF THE ORDER MANAGEMENT PROCESS				

Ref.	Identified Dysfunction (Current State)	Current Impact on Process Performance (1 = negligible → 5 = structurally degrading)	Feasibility of Corrective Intervention (1 = complex/costly → 5 = immediate/accessible)	Priority Level
D9	Absence of an order closure procedure and after-sales feedback loop: the order cycle terminates at dispatch without systematic delivery confirmation, anomaly recording, or structured feedback capture for continuous	**3/5** *Generates invisible recurring error patterns in post-delivery performance; prevents after-sales data from informing process redesign.*	**3/5** *Requires process design, platform configuration, and inter-departmental agreement; depends on consolidation of preceding actions; achievable within 90 days.*	**MODERATE PRIORITY**

	process improvement.			

Source: Developed by us based on pre-optimisation field audit findings at Bergerat Monnoyeur Algeria.

Table 11: Evaluation scale and priority level classification

Score	Current Impact on Performance	Feasibility of Corrective Intervention	Priority Classification
5	Structurally degrading; cross-functional impact on the full order cycle	Immediately implementable with existing resources; no significant investment required	**CRITICAL PRIORITY (both ≥ 4)**
4	High impact; significantly degrades one or more performance dimensions	Achievable with limited preparation and moderate resource allocation	**HIGH PRIORITY (one ≥ 4, other ≥ 3)**
3	Moderate impact; localised dysfunction with limited downstream propagation	Requires structured preparation or depends on prior actions	**MODERATE PRIORITY (both ≤ 3)**
1–2	Low or negligible impact on overall process performance	Complex, costly, or premature given current organisational capacity	**MONITORING ONLY**

Source: Developed by us (2025).

The pre-optimisation evaluation grid confirms the diagnostic conclusions drawn from the field audit and provides the rational evidential basis for the sequencing of the improvement programme presented in the action plan. Four dysfunctions -- D1, D2, D3, and D4 -- are classified as Critical Priority, combining a structurally degrading current impact on process performance (score of 5/5) with an immediately accessible corrective intervention (score of 4–5/5). These dysfunctions produce the most severe and most frequent disruptions to order cycle fluidity, and their correction does not require significant financial investment or organisational restructuring: it requires, above all, the formalisation of what is already known, the documentation of what is already practiced, and the disciplined enforcement of what is already available. These four actions therefore constitute the mandatory first wave

of the optimisation programme, to be launched immediately upon programme initiation. Dysfunction D6 -- the absence of a RACI accountability framework -- is also classified as Critical Priority, as its current impact on inter-functional handoff integrity is high and its correction is immediately feasible through a structured accountability-mapping workshop. Dysfunctions D5, D7, and D8 are classified as High Priority: their current impact is significant

2.2.3 Criticality assessment of identified operational dysfunctions

The criticality table below provides a structured, risk-based assessment of each identified dysfunction, adapted from the FMECA (Failure Modes, Effects, and Criticality Analysis) methodology (Hattab, 2025). Each dysfunction is evaluated across three criteria: (1) Severity (S) -- the magnitude of the negative impact on process performance when the dysfunction materialises; (2) Occurrence (O) -- the frequency with which the dysfunction is observed in daily operations; and (3) Detectability (D) -- the ease with which the dysfunction is identified and diagnosed before generating downstream consequences. Each criterion is rated on a scale of 1 to 4 (1 = low; 4 = very high), and the Criticality Index is calculated as C = S × O × D. The resulting index determines the acceptability classification of each dysfunction and the urgency of its treatment.

Table 12: Criticality Assessment of Identified Operational Dysfunctions at BMA

	Dysfunction	S (1–4)	O (1–4)	D (1–4)	C = S×O×D	Acceptability Level	Treatment Priority
1	Absence of SOPs for order reception and validation	4	4	3	**48**	**INTOLERABLE**	**Immediate**
2	Absence of SOPs for warehouse operations (triage, picking)	4	4	3	**48**	**INTOLERABLE**	**Immediate**
3	Fragmented information flow between departments	4	3	3	**36**	**INTOLERABLE**	**Immediate**
4	Partial and inconsistent	4	3	3	**36**	**INTOLERABLE**	**Immediate**

	adoption of the Order Flow platform						
5	Absence of a RACI matrix and accountability framework	3	3	3	**27**	**MODERATE**	**Short-term**
6	Absence of shared KPIs and performance monitoring framework	3	3	2	**18**	**MODERATE**	**Short-term**
7	Absence of structured inter-departmental coordination mechanism	3	3	2	**18**	**MODERATE**	**Short-term**
8	Incomplete end-to-end order traceability within Order Flow	3	2	3	**18**	**MODERATE**	**Short-term**
9	Absence of order closure and after-sales feedback procedure	2	3	2	**12**	**ACCEPTABLE**	**Medium-term**

Source: Developed by the author based on field investigation findings, adapted from FMECA methodology (Hattab, 2025).

Table 13: Criticality scale and acceptability classification

Criticality Index Range (C = S×O×D)	Acceptability Level	Treatment Requirement
$1 \leq C \leq 16$	**ACCEPTABLE**	Monitor; no immediate corrective action required
$17 \leq C \leq 27$	**MODERATE**	Corrective action required in the short term (< 60 days)
$28 \leq C \leq 64$	**INTOLERABLE**	Immediate corrective action is mandatory (< 45 days)

Source: Adapted from FMECA criticality scale principles (Hattab, 2025).

The criticality assessment confirms and reinforces the urgency hierarchy established by the evaluation grid, while adding a risk-based analytical dimension that quantifies not only the importance of each dysfunction but the structural conditions that make it particularly dangerous within BMA's operational configuration. The four dysfunctions rated as Intolerable -- the absence of SOPs for order reception (C = 48), the absence of SOPs for warehouse operations (C = 48), fragmented information flow (C = 36), and the partial adoption of Order Flow (C = 36) -- must be addressed through immediate corrective actions with a target resolution window of zero to forty-five days from programme launch. Their intolerable classification reflects the simultaneous presence of high severity, high or very high occurrence, and limited detectability: these are dysfunctions that are frequent, impactful, and not readily visible before generating downstream consequences within the order cycle.

The five dysfunctions rated as Moderate the absence of a RACI matrix (C = 27), the absence of shared KPIs (C = 18), the absence of coordination meetings (C = 18), incomplete order traceability (C = 18), and the absence of an order closure procedure (C = 12) -- require corrective action in the short to medium term. While their moderate criticality scores reflect a lower immediate danger than the intolerable dysfunctions, their structural significance should not be underestimated: left unaddressed, these conditions progressively undermine the effectiveness of the immediate actions, prevent the organisation from detecting performance degradation early, and inhibit the transition from reactive crisis management to structured, proactive process governance. Their treatment must therefore be integrated into a second phase of the improvement programme, sequenced to build upon the procedural and coordination foundations established in the immediate phase.

The combined reading of the action plan (Table X), the evaluation grid (Table X+1), and the criticality table (Table X+2) produces a coherent, evidence-based, and sequenced optimisation roadmap that is simultaneously grounded in empirical field observation, aligned with the prescriptive orientations of the academic literature, and calibrated to the operational realities and resource constraints of Bergerat Monnoyeur Algeria. This three-component structure transforms the analytical findings of the audit into a directly deployable operational improvement instrument: each improvement measure is defined, justified, prioritised, assigned to specific responsible actors, and embedded within a realistic implementation timeline -- ensuring that the transition from diagnosis to action is

not merely prescriptive but genuinely operational, and that the optimisation of the order management process at BMA can be pursued in a structured, measurable, and sustainable manner.

CONCLUSION

This dissertation set out to answer the central research question: How can the order management process be optimised through an in-depth audit of its functioning? Through a rigorous qualitative empirical investigation conducted within the Logistics Directorate of Bergerat Monnoyeur Algeria, the research has produced a structured, field-grounded, and theoretically situated response to this question one that integrates the reconstruction of process functioning, the systematic identification of operational inefficiencies, the analysis of their structural causes and performance impacts, and the formulation of concrete, prioritised optimisation measures.

Achievement of research objectives

The first research objective to describe and analyse the functioning of the order management process from an operational logistics perspective has been achieved through a field-based reconstruction of the six principal stages of the order cycle at BMA: order reception and validation, stock reservation and triage, warehouse preparation and picking, dispatch, delivery, and after-sales closure. The audit reveals that, while the formal architecture of the process corresponds broadly to the reference model of Framinan et al. (2003), its actual execution is characterised by a significant gap between formal prescriptions and operational reality a gap produced by the coexistence of partially formalised procedures, inconsistent digital platform adoption, and fragmented inter-departmental communication. The first sub-question how does the order management process function operationally from the perspective of the actors involved? -- is thus answered: actors experience the process as segmented and opaque, managing their respective stages in relative isolation without a shared, end-to-end understanding of the full order lifecycle.

The second research objective to identify and interpret the operational inefficiencies revealed by the process audit has been achieved through a systematic diagnostic that surfaces nine distinct, empirically documented dysfunctions, grouped into three structural categories: procedural insufficiency (absence of SOPs for order reception and warehouse operations), information fragmentation (asynchronous inter-departmental communication and partial adoption of the Order Flow platform), and coordination breakdown (absence of a RACI matrix, shared KPIs, structured coordination meetings, and end-to-end order traceability). The second sub-question which operational inefficiencies become visible when the order management process is analysed in depth? -- is answered: the inefficiencies are not random or peripheral but structurally embedded, mutually reinforcing, and only accessible through the granular, process-level diagnostic lens that the in-depth audit

provides.

The third research objective to propose optimisation paths grounded in the diagnostic results has been achieved through a structured improvement programme comprising nine concrete actions organised along four axes, supported by an impact-feasibility evaluation grid and a FMECA-adapted criticality assessment table. The third sub-question what improvement actions can be proposed to optimise the order management process? is answered with a directly deployable optimisation roadmap that sequences interventions from immediate corrective actions (process standardisation, full Order Flow deployment) through short-term structural measures (shared KPIs, coordination meetings, RACI matrix) to medium-term continuous improvement mechanisms (end-to-end traceability, after-sales feedback loop). The criticality assessment confirms that four dysfunctions warrant immediate, mandatory treatment, while five are to be addressed in structured short and medium-term phases.

Theoretical and practical contributions

From a theoretical standpoint, this dissertation makes two principal contributions. First, it demonstrates empirically that operational inefficiencies in the order management process are structurally embedded phenomena not isolated operational errors whose identification requires a field-based, in-depth process audit rather than performance measurement alone. This finding challenges the predominant orientation of the logistics performance literature, which tends to diagnose dysfunction through quantitative KPI analysis without examining the process-level mechanisms through which inefficiency is generated. Second, the research extends the diagnostic framework of Framinan et al. (2003) and Abi Kannan and Senthilkumar (2025) to a previously underexamined context: the industrial distribution and after-sales services environment of a multi-brand equipment firm operating in a complex Algerian logistics setting demonstrating both the transferability of these frameworks and the specific adaptations their application requires in this context. From a practical standpoint, the research delivers a structured, immediately actionable improvement programme tailored to the specific operational context of Bergerat Monnoyeur Algeria. The combination of the action plan, the evaluation grid, and the criticality table provides management with a decision-support instrument that is simultaneously empirically justified, theoretically grounded, and operationally calibrated enabling the rational sequencing of improvement investments based on the urgency and feasibility of each intervention. The full deployment of the Order Flow platform, supported by formally documented SOPs and strengthened coordination mechanisms, is identified as the critical

lever for transforming the current hybrid, partially opaque operational configuration into a coherent, traceable, and performance-driven order management system.

Limitations of the research

This research acknowledges several limitations that qualify the scope and generalisability of its conclusions. First, the study is anchored in a single-case design conducted within one organisation, which, while enabling the depth and operational granularity necessary for the audit methodology, restricts the direct transferability of findings to other industrial logistics contexts. The dysfunctions identified and the improvement measures proposed are calibrated to the specific operational, organisational, and contextual conditions of BMA and should be recontextualised before application elsewhere.

Second, the qualitative design while epistemologically appropriate for a process audit does not generate quantitative performance data against which the magnitude of the identified inefficiencies can be precisely measured or compared across time periods. The absence of longitudinal operational data prevents the study from establishing baseline performance metrics or from verifying, in quantitative terms, the projected gains of the proposed improvement actions. This limitation points to the value of supplementing the audit findings with quantitative performance monitoring once the improvement programme is implemented. Third, the sample of interviewees, while selected through purposive sampling to ensure the coverage of all key operational functions, remains limited to five actors. While data saturation was observed during the interview analysis, the perspectives of actors from additional departments particularly the purchasing and customs clearance functions that feed the upstream stages of the order cycle could enrich the diagnostic with insights into the supply-side determinants of order management performance.

Directions for future research

Several directions for future research emerge from the findings and limitations of this study. First, a longitudinal follow-up investigation at BMA -- conducted after the implementation of the proposed improvement actions -- would enable the quantitative measurement of performance gains and the empirical validation of the causal relationships between process standardisation, coordination strengthening, digital integration, and logistics performance outcomes. This would transform the prescriptive contribution of this research into a validated improvement model with measurable evidence.

Second, future research could extend the process audit methodology applied in this dissertation to other industrial logistics organisations operating in Algeria or in comparable emerging market contexts, enabling cross-case comparison and the progressive

construction of a more generalisable diagnostic framework for order management inefficiency in industrial distribution environments. Comparative studies across multiple firms within the same sector for example, the industrial machinery distribution and after-sales services segment would be particularly valuable in establishing which inefficiencies are organisation-specific and which are sector-systemic.

Third, the role of digital tools and specifically the conditions under which platforms such as Order Flow can be effectively deployed within partially formalised process architectures deserves dedicated investigation. Building on the findings of Cichosz et al. (2020) and Tjahjono et al. (2017), future research could examine, through a mixed-methods design combining surveys and case studies, the organisational and procedural prerequisites for the successful adoption of order tracking platforms in industrial logistics firms, and the specific performance improvements that their full deployment generates when embedded within standardised, well-governed workflows.

This dissertation ultimately demonstrates that the order management process, when examined with sufficient rigour and operational depth, reveals the structural conditions of its own dysfunction and, in doing so, generates the knowledge necessary to redesign it. At Bergerat Monnoyeur Algeria, the path toward a more efficient, coordinated, and customer-oriented order management process is neither technologically complex nor financially demanding: it begins with formalising what is known, documenting what is practiced, measuring what is managed, and aligning what is currently fragmented into a coherent, shared, and continuously improvable operational system.

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Appendix

Appendix: Interview Guide

Optimisation of the Order Management Process through the Analysis of the Operational Inefficiencies

This semi-structured interview guide is designed to explore perceptions and practices related to the order management process within the organisation under study. It seeks to collect qualitative insights from the various actors involved in the process, particularly those who participate in operational execution, coordination, and information exchange. The guide is structured around three main analytical axes:

The order management process as a system

Operational inefficiencies in the order management process.

Information flow and coordination

Logistics performance measurement

Section	Questions
Introductory questions	Could you briefly introduce your role and responsibilities within the organisation? How long have you been involved in the order management process? Could you describe, in general terms, your involvement in this process?
Axis 1: The order management process as a system	How would you describe the order management process in your organisation? What are the main stages of this process? Which actors are involved, and how do they interact with one another?
Axis 2: Operational inefficiencies in the order management process	What are the main operational inefficiencies observed in the order management process? At which stages do these inefficiencies most often occur? What are their main causes and consequences?
Axis 3: Information flow and coordination	How does information circulate between the different actors involved in the process? What difficulties are encountered in the exchange of information? To what extent does information flow influence coordination and process performance?
Axis 4: Logistics performance measurement	How is logistics performance evaluated within the organisation? Which indicators are used to monitor the effectiveness of the process? In your view, what improvements could be made to the current performance measurement system?